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May-June 1999

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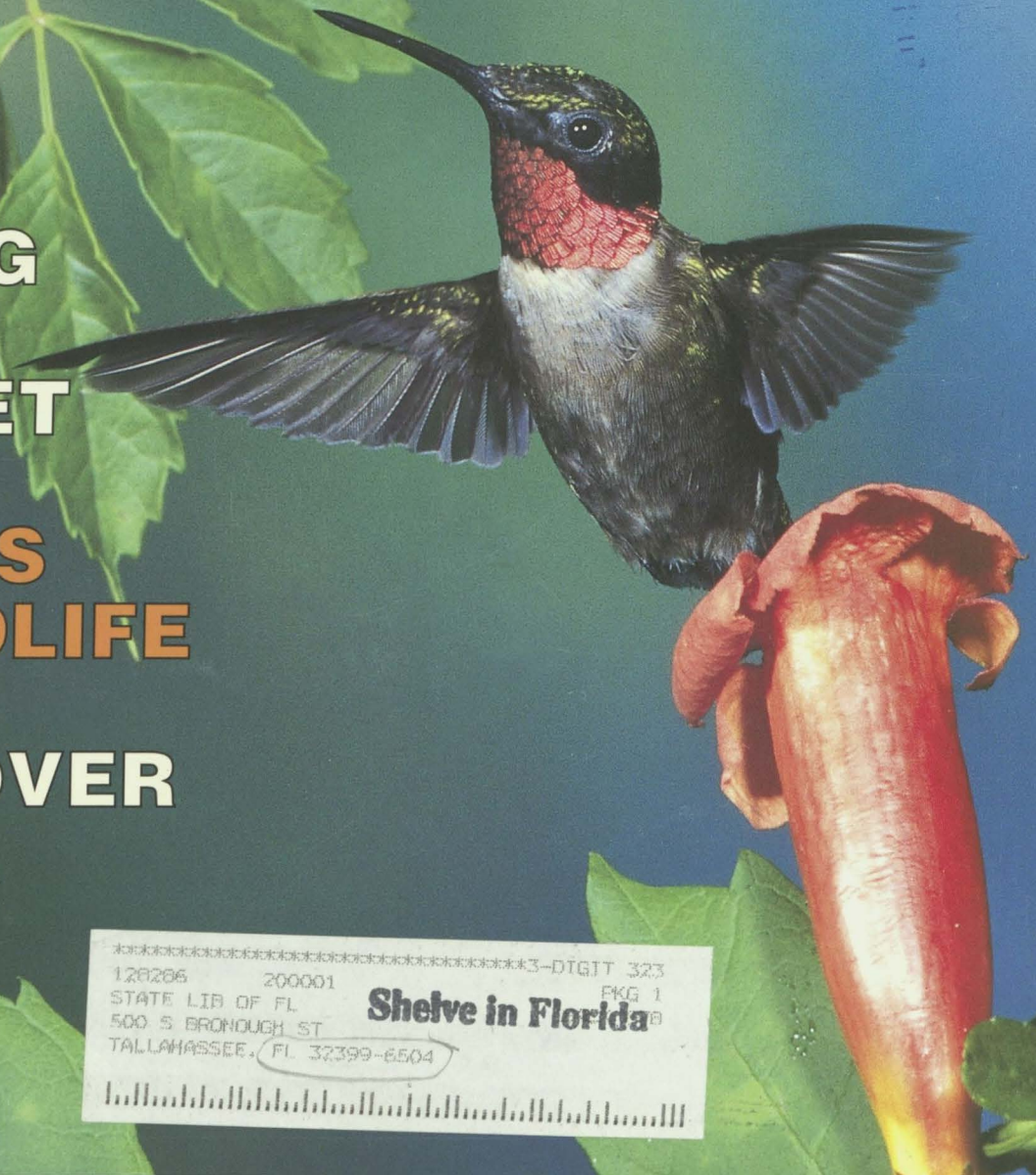

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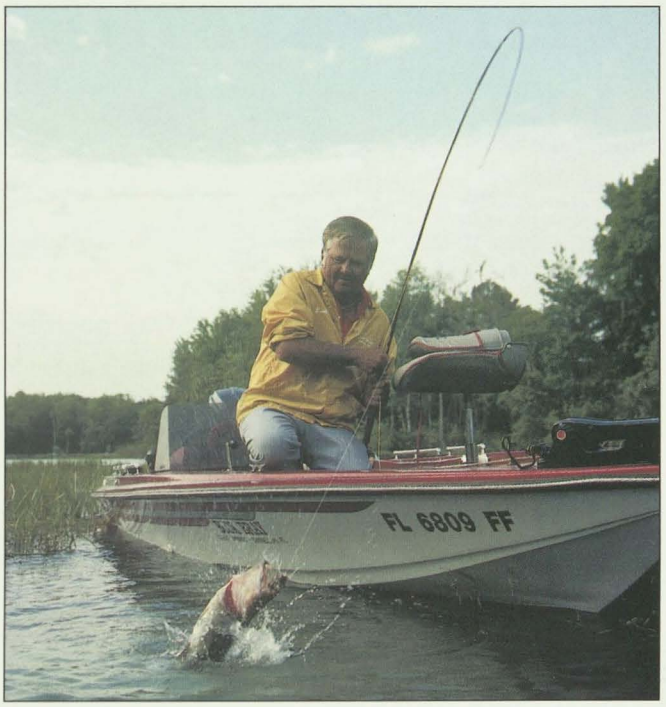

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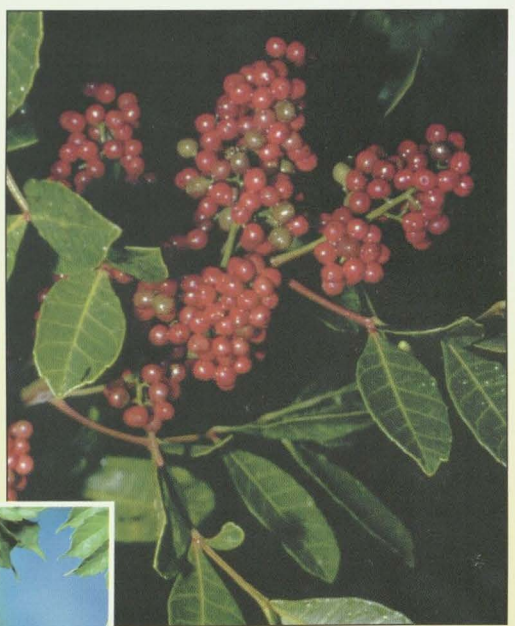

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Cover
The front cover photograph of a ruby-throated hummingbird was taken by Barry Mansell. The back cover scenic photograph was taken by Marc Epstein.

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Invasive Exotic

Visitors That Never Leave

By James Call

They need help to get here. Some arrive in the cargo holds of ships and planes. Others seduce residents with flowers and fragrances to get a free trip to the United States. It's when they get to Florida that we learn their true nature; they are killers who won't leave. They are exotic invasive plants that must be stopped.

"Our biological heritage is at stake here," said Don Schmitz of the Department of Environmental Protection (DEP), the state's lead agency in the battle against invasive plants. "We're fighting for Florida's survival."

It's a war and ecological bullies are the enemy. Aggressive non-native plants are rampaging through the countryside, smothering lakes, rivers and canals; on land they force out native plants and wildlife by poisoning the soil and soaking up all the food, sun and water.

About a third of the plant species in Florida came from elsewhere. Of the 1,200 plants imported to the Sunshine State, the Florida Exotic Plant Council has identified 115 of them as a threat to the state's ecology. Researchers say 10 of these are highly invasive plants wreaking havoc across the state.

Florida city, county and state governments spend about $25 million annually trying to eradicate and control the spread of non-indigenous plants. No one knows how much money is needed for an effective statewide effort. One survey estimates it would take $40 million to clean out alien plants in just Dade, Broward and Palm Beach counties.

"No one has completely surveyed the state's conservation lands to see how extensive the problem is," said Mark Zeller, a biologist with DEP's Bureau of Invasive Plant Management. "Before we can put a price tag on the cost we need a more extensive survey," he explained. Such a survey of Florida plant life would be a difficult task. Zeller said experts are wrestling with how to do it.

Few question that invasive species cost the state money. Federal officials say the bill to taxpayers nationwide is $123 billion a year. In Florida, money is lost when the state's appeal to tourists fades because its unique flora is displaced by alien invaders. Anglers can't fish hydrilla-choked lakes, hunters can't find game nor can birders spot birds in woods wildlife have fled in search of food. City, county and state governments lose tax money when people no longer participate in these sports.

Not all exotics are invasive. Only when they get loose in the wild is it revealed whether the plant will be a persistent foe. When its natural enemies – disease and insects -- are absent, the exotic thrives in the semi-tropical sunshine. About half of the troublesome species were brought to Florida for either ornamental or erosion control reasons. ▷

William J. Weber

Brazilian pepper (above) was once called Florida Holly.
Page 3: Kudzu.

Plants

Dr. George Stone, living at Punta Gorda during the 1920s, was enthralled by the red berries and flowers of the Brazilian Pepper. He reportedly raised hundreds of plants, distributing the seedlings among his friends. At the time they were called "Florida Holly" and planted along city streets. The Brazilian Pepper now infests more than 700,000 acres in south and central Florida as well as islands on the east and west coasts. Its fruit and foliage are toxic.

Ben Franklin is credited with introducing the Chinese tallow to the United States. He sent seeds of the small tree to a Georgia farmer in 1772. Today the tree is invading closed-canopy forests, hardwood forests, lake shores and wetlands in north and central Florida. It's found in 38 of 67 Florida counties.

At the turn of the century the Australian melaleuca was sold as an ornamental plant and used in a scheme to dry up the Everglades. These white-flowered trees, also planted as wind-breaks, have taken over 1.5 million acres, pushing out mangrove stands and invading sawgrass marshes.

It's difficult to keep non-native plants out of the state.

"Short of shutting down international travel, you can't keep them out of the country," said Interior Secretary Bruce Babbitt during a National Public Radio appearance. Babbitt is coordinating a federal effort to stop the spread of invasive plants and animals.

Staffing the front lines in Florida's fight against exotics are groups like the Hillsborough County Brazilian Pepper Poppers and the Tallahassee Tallow Terminators. These citizen groups are working in their communities to curtail the ecological damage inflicted by alien plants. Recently DEP created regional working groups to identify problems and recommend proposals to stop the plants from spreading. The folks in the field have input in drawing up the battle plans.

"We're not going to get rid of the Chinese tallow," said Stan Rosenthal, a Tallahassee Tallow Terminator, conceding the difficulty in wiping out an "escaped" plant species.

"But we can control it a little bit better."

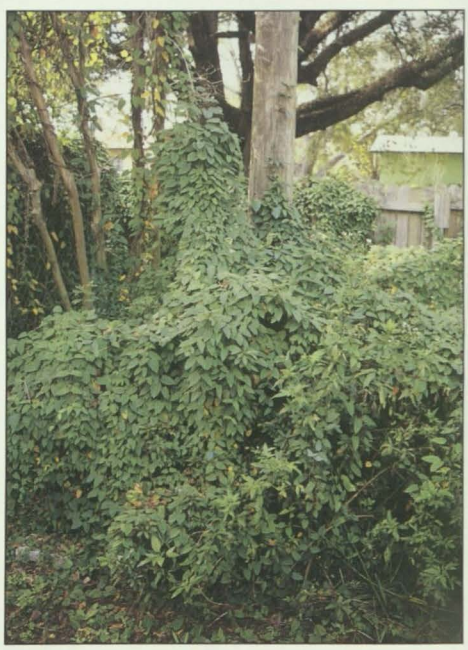
Florida has had much success in controlling hydrilla and the water hyacinth, two highly invasive, fast growing aquatic plants. About 20 years ago hyacinth blanketed more than 150,000 acres of water in the state. Today, about 2,000 acres are infested. Veterans of that fight believe two things are needed to win a war against invasive plants. One is a strong local commitment to do something about the problem. The second is a lead agency networking interested groups into a team effort.

The lessons learned fighting aquatics are incorporated in the fight against other exotics. As in any war, an effective strategy is determined by the enemy's strength and weakness. That is why the ground troops need to know about their allies' success in other regions. A piece of information gathered in Marathon may help solve a problem in Ocala.

"You need strategic information

Page 4- 5 photos
Courtesy the Department of Environmental Protection

Melaleuca takes over an area and provides little food for animals.



Skunk vine is moving into north Florida.

about your enemy, when to hit, how to hit it and how to reduce collateral damage to native plants," said Schmitz.

It is difficult to eradicate a plant once it has escaped into the wild because a seed may have a shelf life of more than ten years. One can either try to hunt down the plants and physically remove them; poison them with chemicals; or use biological control agents, such as the plant's natural enemies from their homeland. To help keep hydrilla under control, the Game and Fresh Water Fish Commission raises sterile Chinese grass carp to eat the aquatic vine. Anglers then fish the carp, preventing it from joining the list of invasive species.

But all three methods have drawbacks. Herbicides may harm other plants. Biological control works only half the time, and introducing a non-native species could create unforseen consequences. The third option, physically removing the plants, is time-consuming and labor intensive.

"You may want to go and dig them up," said Rosenthal. "But then you come across 30 acres of tallow and realize it's too overwhelming to do by hand."

Given the long shelf life of seeds, none of the approaches may be 100 percent effective.

The Chinese tallow illustrates why invasive plants present a persistent problem. It's small with leaves that turn yellow, orange, burgundy and red in the fall. Its color seems to make it an ideal landscape tree. But it spreads like wildfire.

Both the boat-tail grackle and pileated woodpecker feed on, and transport tallow seeds, which float. When birds fly over a river or a lake and drop some seeds they launch an invasion. When the seeds, fall in a remote area, the plant can establish itself before anyone is aware a problem exists. It took the tallow just 22 years to create a dense infestation along the shores of Lake Jackson, a renowned north Florida bass fishing spot. The tallow is toxic for fish.

A 1997 law passed by the Florida Legislature charged the DEP with developing a systematic approach to reducing invasive plants on public lands by 25 percent by 2010. DEP set up 11 working groups across the state consisting of natural-area managers and officials. The DEP is at the center of the effort, linking the groups together by serving as a clearinghouse for information on control and eradication of plants, setting guidelines and providing money to wage war against exotics.

The working groups submit five proposals annually to Tallahassee. Managers at DEP study the proposals with two goals in mind: to contain and to eradicate exotic plants. The proposals are evaluated based on whether they are cost-effective; fight a targeted exotic; benefit either a threatened or endangered species. Also the site must have a high restoration potential and include a public education program to increase awareness of the exotic threat.

In February 33 projects attacking 15 species submitted by the regional groups were approved for funding by the Bureau of Invasive Plant Management. This is the project's second year.

"I'm anxious to get out there and start killing some weeds," said Zeller. The sites have been identified and now we're working out the details."

Zeller said that in the short term the strategy is to prevent alien plants from moving into new areas. The groups will work where there are healthy native plant communities and stop the exotics from establishing any more footholds in the Florida countryside.

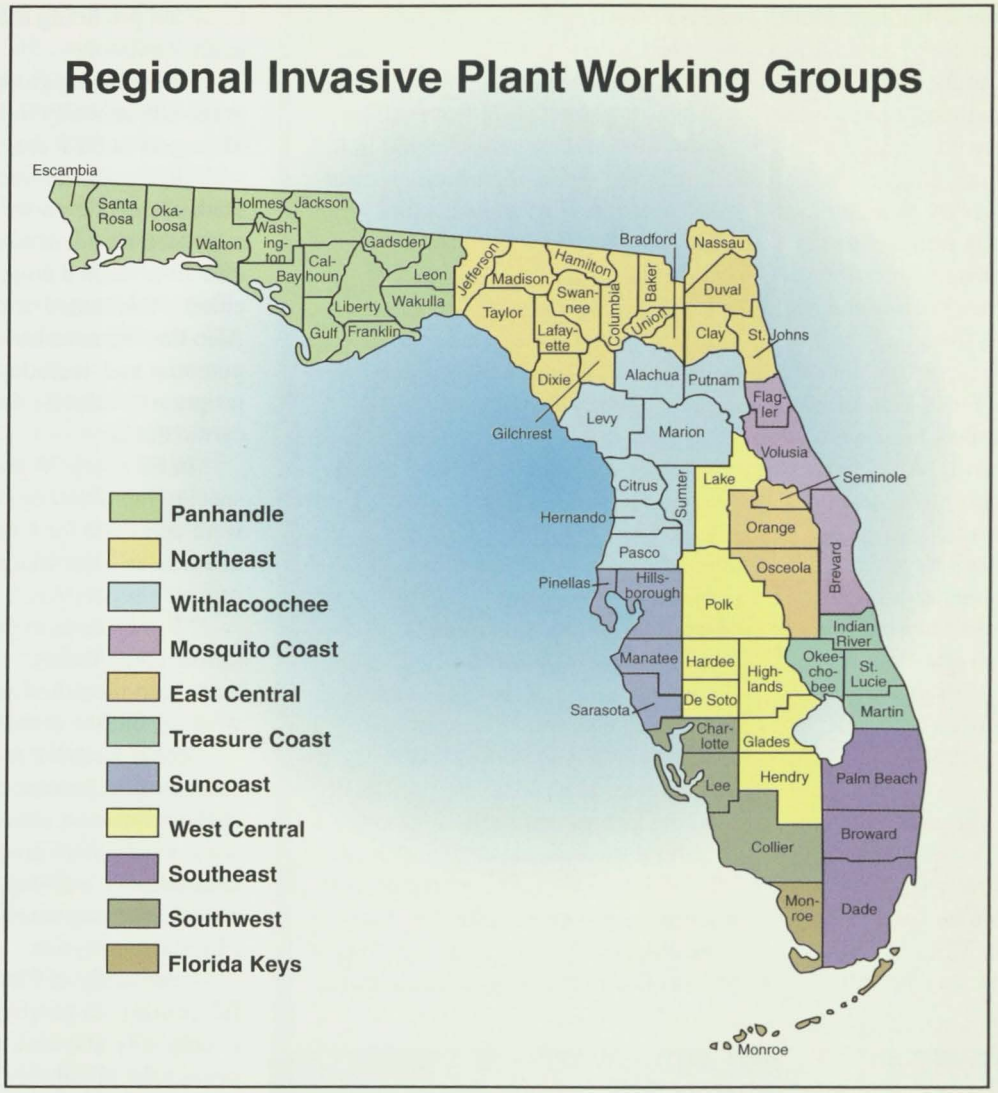
Ultimately, if Florida is to be successful, it must get people involved at the county, city and backyard levels. There's always the possibility some dormant seed will sprout and start a new infestation. Such a possibility leads Schmitz to recite his mantra in the war against exotic plants: "It has to be local to work."

The Tallahassee Tallow Terminators convinced Leon County and the City of Tallahassee to pass an ordinance outlawing the sale of Chinese tallow in 1994, long before the state acted. It sponsored a Tallow Awareness Day at Lake Jackson when its shoreline was dominated by the pesky invader. The group works to educate the public about how a harmless looking backyard tree is wreaking havoc on native plants and animals. Group members agree the tallow looks lovely and has a cute nickname (the popcorn tree), but tell homeowners it has to go.

"Most people, once they get to understand the problem, buy into what we're doing," Rosenthal said. "People want to do the right thing."

The soda apple plant finds all areas of Florida hospitable.

James Call is associate editor of Florida Wildlife *magazine.*



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Florida's Alien Hit List

1. Brazilian Pepper
Once sold as a landscape ornamental, it now infests more than 700,000 acres in central and south Florida.

2. Australian Melaleuca Tree
Introduced to south Florida in 1906 and planted as windbreaks, it has invaded 1.5 million acres and is taking over an additional 50 acres every day. It produces little of use to wildlife.

3. Skunk Vine
A pernicious, pesky, smelly plant now in 18 counties. It smothers underbrush and strangles trees.

4. Tropical Soda Apple
Covers 500,000 acres of Florida pastures, roadsides, ditchbanks, cultivated and natural areas.

5. Cogon Grass
Found in sandhills, flatwoods, grasslands, swamps and river margins throughout the state. Its rough edges will slice the skin. Cogon grass produces chemicals that inhibit growth of other plants.

6. Australian Pine
Grows in pinelands, sandy shores and dunes, where its dense shade and chemicals from leaf litter displace native vegetation. Sea turtles become entangled and trapped in the trees' exposed roots.

7. Water Hyacinth and Hydrilla
Hydrilla has invaded about 40 percent of the state's rivers and lakes. DEP estimates it will spend $100 million in a decade to control hydrilla and water hyacinths.

8. Chinese Tallow
Sometimes called the popcorn tree, it first arrived in Florida in the late 1700s, Ben Franklin was a fan. It thrives in undisturbed areas such as canopy forests, bottomland hardwood forests, lake shores and floating islands.

9. Air Potato
Climbs high into tree canopies and engulfs surrounding vegetation.

10. Kudzu
Introduced in Florida in the 1920s, it can grow 60 feet annually. It infests 7 million acres throughout the southeastern United States. Kudzu forms a dense thicket of little use to wildlife and crowds out other plants, disrupting the ecosystem.

Australian pines.

Cogon grass (shown left of water).

Photos Courtesy the Department of Environmental Protection

Fleshly Appetites

Text and photographs by Michael Wisenbaker

Carnivorous plants capture, kill and consume prey. Prey, in this sense, refers to trapped creatures, since leafy carnivores do not pursue food the way many animals do. On the contrary, they lure unsuspecting visitors to a variety of clever traps. Few members of the vegetable kingdom grab our attention as much as these masters of deceit. For example, in 1986 a musical comedy called "Little Shop of Horrors" featured a flower shop employee who bought a plant from outer space. It turned out that the bush attracted people and attempted to devour their flesh. Although often parodied in this fashion in cartoons, comic books and monster movies, carnivorous plants exhibit some remarkable traits making them one of nature's more intriguing creations. They reverse the order in which we expect things to occur in the food chain, with plants eating animals.

Devious designs enable carnivorous plants to exploit habitats found in various moist, open areas devoid of nutrients. In wetlands where water recharges slowly, for instance, chemicals released by decaying plants often become heavily concentrated. Acid compounds such as tannins build up and increase the acidity of soils (although some such plants can thrive in alkaline soils). To offset these poor soils, carnivorous plants attract prey by odor, color or form. Superb examples of adaptation, they thrive where most other plants fail because of their unique abilities to obtain necessary minerals by trapping and digesting small critters. The prey captured and absorbed by these plants supply vitamins and proteins that other flora growing in richer soils pick up through their roots.

The southeastern coastal plain holds more species of plants of prey than anywhere else on earth. Florida, in turn,

boasts more species than any other state. Bogs, savannas, seepage slopes and wet pine flatwoods inhabited by carnivorous plants are slowly being eliminated, especially in southern, eastern and coastal areas of Florida. Wetlands once covered more than half of our state's landscape. Today, drastically reduced by draining and filling, they make up about one-tenth of Florida.

Venus flytraps (*Dionaea muscipula*) symbolize the most famous and most endangered carnivorous plant. Endemic to the coastal plain of North and South Carolina, Arthur Dobbs, a governor of North Carolina, first named the plants in 1763 and characterized them as "the great wonders of the vegetable world." Charles Darwin in 1877 described them as "the most extraordinary plants in the world." They often flourish near other flesh-eating flora. Their trap lobe resembles a clam – with the free edge of each side bordered with stiff spines – and produces a sugary substance that emits a pleasing scent to insects. After a victim falls for this ruse, the flytrap bears a trigger similar to a steel trap that causes the lobe to snap shut at $^{1}/_{30}$ of a second. The ability to move represents a significant adaptation in the evolution of preying plants. Although exotic to Florida, a small population of Venus flytraps occupies a remote area of the Apalachicola National Forest a few miles northwest of the tiny town of Sumatra.

This past Halloween eve, I ventured deep into the forest to photograph an assemblage of these toothless terrors. Linda Chafin, a botanist with Florida Natural Areas Inventory (FNAI), had given me directions on where to find the plants. It took a while before I located the section of road where the small colony of inconspicuous Venus flytraps thrived. Once I found them, just as expected, they were accompanied by an array of sundews, butterworts and pitcher plants in an appealing savanna surrounded by pine flatwoods on three sides and a cypress strand on the other.

Although it was a warm, sunny day with temperatures in the mid-80s, mosquitoes were not to be found, even though they were prevalent in the adjoining flatwoods. On the other hand, flies filled the air, several of which sampled my succulent skin. Ants also were plentiful and stung me several times. While scents given off by this community of carnivores may appeal to insects, they did not smell very good to me. After spending half a day on my elbows and knees shooting plants with my camera, the thing that stood out most about these meat-eating marvels was their diminutive sizes and diverse designs.

Native Americans knew about pitcher plants (*Sarracenia*) long before European ▷

This Venus flytrap has captured a bizarre looking beetle.
(page 8) Pitcher plants in a remote savanna of the Apalachicola National Forest.

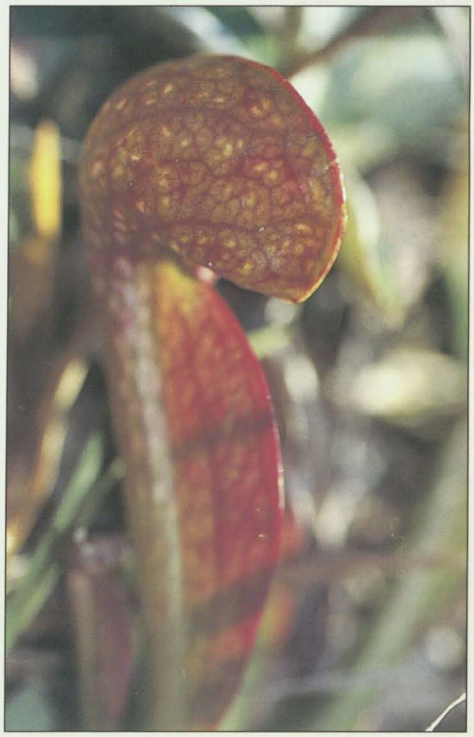
explorers "discovered" them sometime in the 1500s. These pits of no return, indigenous to North America, thrive in bogs, swamps, open pinelands and other moist lands. Their hollow tube-like leaves resemble pitchers. They lure prey to its death by a combination of secreting nectar, eye-catching colors, alluring odor and fenestration (characterized by translucent windows that illuminate inside the plant making it more attractive to intruders) of their leaves. Once an animal enters the passive pitcher, it cannot escape. Six species of this plant appear in Florida, with the white-topped pitcher plants (*Sarracenia leucophylla*) and sweet pitcher plants (*Sarracenia rubra*) being endangered according to the FNAI.

Glands that secrete digestive enzymes line the bottom of the pitchers. These enzymes effectively turn prey into needed nutrients, except more resistant body parts made of chitin. Many organisms also dwell in the liquid that collects at the base of the hollow traps. These denizens form a miniature ecosystem that includes yeast, algae, fungi, bacteria, protozoa and other microbes, some of which aid in processing food. Ants, beetles, crickets, wasps, spiders, flies and occasionally small frogs constitute the primary prey of pitcher plants. Not all creatures succumb to their death lures, however, since some bugs feed upon the plants, while other animals take advantage of the pitchers' ability to capture insects so that they may sate their fleshly needs. Creatures that feed on pitchers include certain moths and caterpillars. The pitchers, in turn, depend on various insects for pollination.

Sundews (*Drosera*) are sometimes called living flypaper. Their tentacle-covered leaves end in spherical glands, enclosed in a ball of sticky mucilage. The way the glands glisten in the sunlight give the plants their common name. They range in size from a fraction of an inch to 39 inches high. The glands act as visible and aromatic enticements as well as gluey traps. Movement causes them to send impulses to other tentacle glands, resulting in the release of still more viscous fluid and the convergence of adjoining tentacles toward the victim. Five species of sundew occur in Florida, one of which – the spoon-leafed sundew (*Drosera intermedia*) – is listed as endangered by FNAI.

Practitioners of folk medicine once used sundews to treat corns, warts, freckles and burns and to curb coughs, respiratory disorders, tuberculosis, arteriosclerosis, inflammations, intestinal illnesses and syphilis. Sundews also promote soothing effects and, according to some sources, are used as aphrodisiacs for female sheep. Today, sundew extracts are supposedly efficacious for relieving coughs and ailments of the upper respiratory tract. The plants have even been used in the production of various cheeses – since their leaves can curdle milk.

Butterworts, sometimes known as creamy cups of death, bear greasy-feeling leaves. Their scientific name, *Pinguicula*, derives from Latin and means somewhat fat. They possess a faint fungus-like scent that draws insects. Their leaves usually look pale or yellowish-green. Victims



The parrot pitcher's color and patterning attract insects.

A violet butterwort's leaves curl inward to keep its glue-like secretions from spilling.

A small sundew glistens in the bright autumn sunlight.

such as flies, aphids, springtails and other insects become ensnared, similar to the flypaper method used by the sundew, when they land or crawl on the glue-like surface of a butterwort leaf. As they attempt to escape, they become hopelessly mired in mucilage where they suffocate and are digested. Butterwort leaves move imperceptibly during prey capture, slowly curling up to form a shallow bowl that keeps the sticky liquid from spilling. Of the six species of butterwort present in Florida, the state lists the violet-flowered butterwort (*Pinguicula ionatha*) and Chapman's butterwort (*Pinguicula planifolia*) as endangered.

Bladderworts or *Utricularia* comprise the least familiar genera of carnivorous plants in Florida. Their scientific name – *Utricula* – means little bag or sac, referring to the plants' trapping mechanism. Primarily an aquatic or semi-aquatic plant (attached to wetland soil, but with no roots) that favors acid to neutral waters, 14 species of bladderworts live in Florida. Traps range from the size of a pinhead up to 1/4 inch. The urn-shaped bladders are armed with triggers on moveable doors. When smaller creatures, such as water fleas, protozoans, fish fry, tadpoles or mosquito larvae, drift by the meat-eating bladderwort, they sometimes brush against one of the trips on its bladder. A trap door flies opens, sucking the tiny beast inside so that it can be digested. Occasionally grown in aquariums, it takes about two weeks for enough animal life to develop to sate the plant's fleshly appetite. The sulfur-yellow or purple flowers of bladderworts often blanket entire surfaces of lakes and ponds.

Unfortunately, the future appears bleak for carnivorous plants. Factors contributing to their plight include the degradation of wetlands, fire suppression (periodically burning over their range benefits survival by removing debris and competing plants), water pollution, vandalism and plant collecting. When an environment changes from wetland to scrub or woods, either from natural or human causes, it bodes ill for these botanical beauties. Carnivorous plants and many of their wetland counterparts become unwitting victims of these changes. Last summer's drought appeared to have taken a toll on most of the pitcher plants that I observed in the savanna.

Fortunately, though, some carnivorous plant communities fall within public lands such as the Apalachicola National Forest and Eglin Air Force Base. In addition, the state's highly successful Conservation and Recreational Lands Program (CARL) continues to buy many natural treasures throughout the state. One of those properties is the Perdido Pitcher Plant Prairie in Escambia County. The state has already bought about 1,000 acres of this 7,000-acre tract, which holds one of the most diverse plant communities in the southeast. Perdido supports the largest stand of endangered white-topped pitcher plants in Florida along with almost 100 other species of flora.

While no one knows what the future holds for these predatory plants, they make up an integral part of native life forms that call Florida home. In contrast to the palms, pines, palmettos and oaks that most associate with our state, these fascinating flora serve to remind us of ourselves in that they use guile to attract and capture their prey. We can only hope that they continue to survive so that coming generations of Floridians will be able to enjoy these cunning carnivores.

Michael Wisenbaker is a Tallahassee-based writer/photographer who frequently covers nature.

A trumpet-leaf pitcher beckons small insects and reptiles to its opening.

Beware of the Poison Family
They Love To Make You Itch!

By James Call

Spring is here and it's time to enjoy the outdoors. Whether you are strolling through the woods or working in the yard, you will want to avoid three members of the *Rhus* family. Poison ivy, poison oak and poison sumac all cause the same itchy, red rash.

Most people are allergic to an oil produced by these plants. When you come into contact with it you have about 30 minutes to wash it off or a skin rash will appear within two days. The eruption is characterized by redness, papules, vesicles and linear streaking.

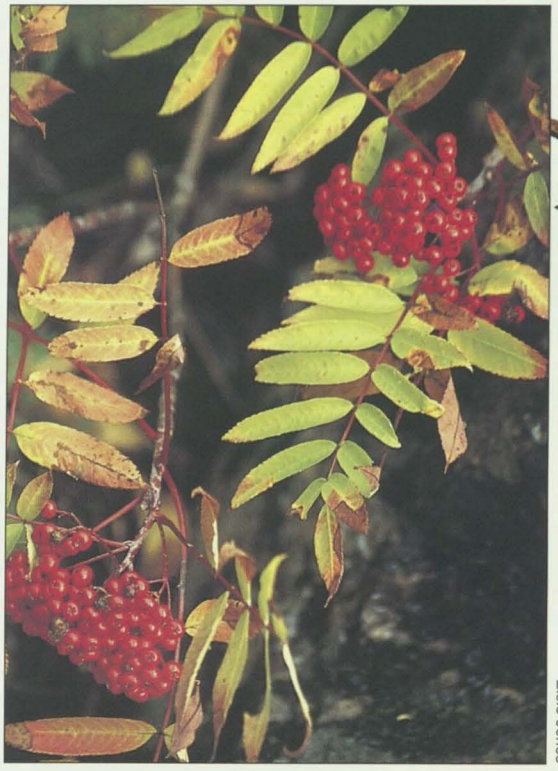
Since the urushiol oil remains potent for as long as one year, it is important to wash all clothing including boots, gloves and tools exposed to these plants. Otherwise, you risk being infected again and again.

The pictures and guidelines below should enable you to identify the poison family. Keep in mind that they can grow just about anywhere.

Poison Ivy: *Rhus radicans* may grow as a small shrub or a high-climbing vine and is recognized by three bright green, shiny leaflets on a stem. The leaflets are elliptic to egg-shaped and may have smooth, toothed or lobed margins. The underside of the leaflets feature hair along the veins. Poison ivy fruit is found in clusters and may be waxy white or cream colored.

Poison Oak: *Rhus diversiloba* grows as a small shrub and can reach eight feet in height. It sports fuzzy white berries and a complex leaf structure of three bluntly ended leaflets which usually have 3-7 deep teeth or lobes along the margins.

Poison Sumac: *Rhus vernix* is found in shady swamps. It grows to a height of 15-20 feet. The leaves of the sumac plant have 7-13 leaflets and its white fruit is found in clusters.



Elsie Jones

Poison sumac

Poison ivy

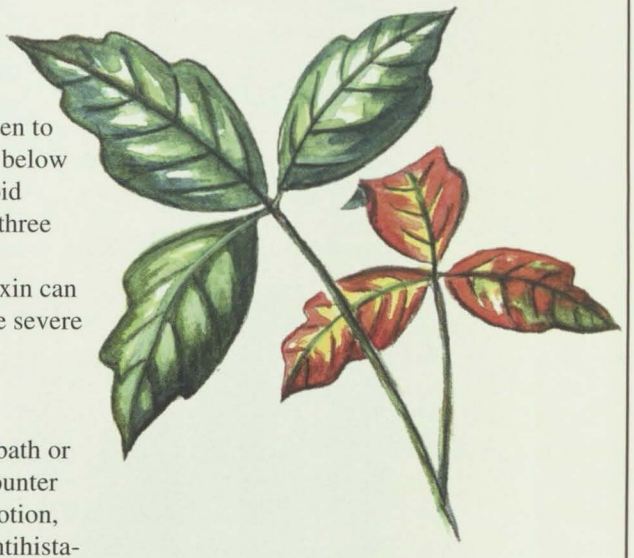
Control

The best way to control members of the *Rhus* family is to spray them with a herbicide when the plant is in its flower or fruit stage. If the ivy has intertwined itself with a tree, clip the vine 2-3 feet above ground. Remember to disinfect the cutting tool. Seven to 10 days later, spray the vines below the cut line. Be careful to avoid spraying a tree younger than three years or ornamentals.

Never burn vines. The toxin can be carried in smoke and cause severe allergic reactions.

Treatment

Treat rashes with a cool bath or paste of oatmeal. Over-the-counter medicines include calamine lotion, hydrocortisone creams and antihistamines.



Poison oak

Proposal Earmarks
Millions for Wildlife

By Misty Penton

A proposal working its way through Congress would increase funding for wildlife-related conservation, education and recreation, as well as provide money for park and state land acquisition.

The landmark legislation, (HR 701), known as the Conservation and Reinvestment Act of 1999 (CARA), is cosponsored by 35 lawmakers from both parties. When he introduced the bill Rep. Don Young, R-Alaska, welcomed public comment, "This has, and will continue to be, a work in progress with room for input from all sides of the political spectrum."

CARA earmarks revenues from Outer Continental Shelf (OCS) oil and gas leases for conservation-related programs. The proposal gives 10 percent of annual OCS revenue ($459 million in 1999) for state-level wildlife-related recreation and conservation education programs. Florida's annual share would be around $15 million.

For three years the Florida Game and Fresh Water Fish Commission (GFC) in conjunction with the national coalition Teaming with Wildlife has been seeking congressional support for legislation to pay for nongame wildlife management.

Many fish and game management programs are paid for largely by license fees from hunters and anglers, but there is a lack of money dedicated to nongame fish and wildlife. Supporters of HR 701 say the bill solves this problem by providing a permanent revenue source for these programs.

For more than three years the GFC has been seeking congressional support for this type of legislation through the national coalition, "Teaming with Wildlife."

The proposal discourages new oil and gas leases by excluding areas currently under a moratorium from the CARA program. The exemption is important to Florida because of a moratorium, supported by Governor Jeb Bush, which is in effect in U.S. waters off of the state's Gulf coast. Dr. Allan Egbert, executive director of the GFC, explained, "We would not favor this funding approach if it might encourage a lifting of the moratorium. While it is our view the House version of CARA resolves this issue, we are working with the Governor's Office and our congressional delegation to create a statewide consensus to support the bill."

Projects such as the Great Florida Birding Trail – a 2,000-mile highway trail designed to enhance birdwatching and environmental education – could benefit if the bill becomes law. "These things translate into economic opportunities too," Egbert said. "Here in Florida, we are just beginning to harness the economic potential of promoting wildlife viewing."

Dr. Russell S. Nelson, executive director of the Florida Marine Fisheries Commission (MFC), said several MFC programs could use the extra money. "(CARA) ... would provide a tremendous boost to our efforts to address the desire of Floridians to improve and protect the environment of coral reef inhabitants, and other potentially threatened fish."

The proposal is posted on the Internet at **http://thomas.loc.gov/**. Congress is expected to vote on the bill this summer.

What You Can Do

- Contact your congressional representatives about the Conservation and Reinvestment Act of 1999 and funding for nongame wildlife.

- Obtain CARA updates by visiting the Teaming with Wildlife web site at **http://www.teaming.com** .

- Get in touch with the International Association of Fish and Wildlife Agencies **teaming@sso.org**, (202) 624-7890.

- Call Misty Penton, the Teaming with Wildlife coordinator for the GFC, (850) 488-3940; **pentonm@gfc. state.fl.us**.

Caravelle Ranch
Wildlife Management Area

By Lt. Joy M. Hill

Bird lovers of all types will find something to like about the Caravelle Ranch Wildlife Management Area (WMA) in Putnam County. Whether you hunt with a shotgun, binoculars or camera, Caravelle Ranch has game for you.

This 13,383-acre WMA, created in 1994 10 miles south of Palatka, offers hunters lots of deer, turkey and small game. But it's the doves that are proving to be the biggest draw.

Caravelle supports such a healthy dove population that the Florida Game and Fresh Water Fish Commission (GFC) has established four 50-acre fields and designated them Special Opportunity Dove Hunt areas.

Special opportunity hunts offer an experience on public lands that is comparable to hunting on private land for a fraction of the cost. The small number of permits increases hunters' chances for success.

"Caravelle has excellent dove habitat that, with proper management, is producing good numbers of doves," said Dan Miller, the WMA's wildlife biologist.

Last year, the first season for special opportunity hunts at Caravelle, 202 hunters bagged 657 birds. GFC officials believe the increase in the dove population is due to habitat improvements made during the past five years.

For example, fields that were overgrown with prolific wax myrtles are being prescribed burned and planted with millet to attract doves.

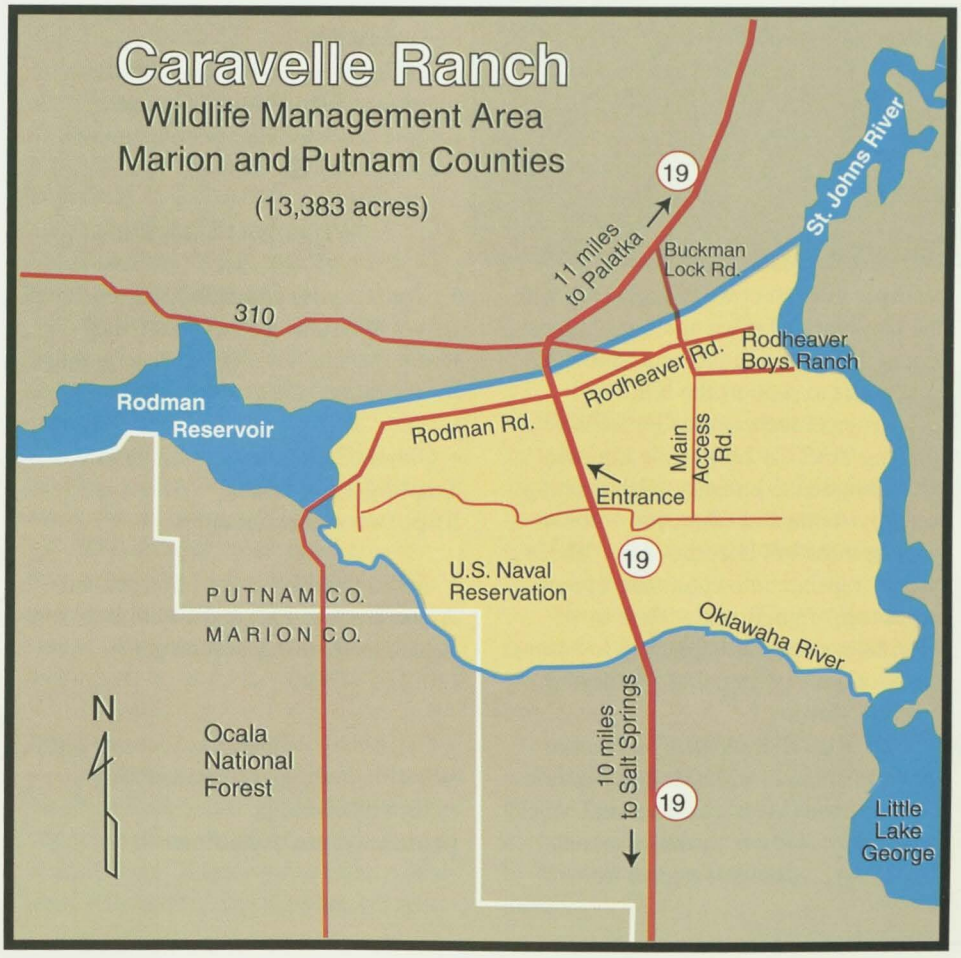
Where wax myrtles were once so thick you couldn't see daylight, the GFC has planted 155,000 longleaf pine trees that will one day provide wildlife corridors of cover between open areas.

"Turkey, for example, need such places for bugging areas where poults (young turkeys) can eat the insects found in the openings and then run into the cover of the longleaf pines for protection from predators," said Miller.

Although the area has been managed primarily for game species such as dove and turkey, Miller says many types of wildlife – game and nongame alike – benefit from the habitat improvements. Quail, flycatchers, songbirds such as robins, mockingbirds and warblers, rabbits, raccoons, small rodents and red-shouldered and red-tailed hawks are all found living within the WMA.

Caravelle is bordered on the east by the St. Johns River, the north by remnants of the North Florida Barge Canal, and west and south by the Oklawaha River. It is a diverse collection of habitats which include mesic flatwoods, floodplain swamp, bottomland forest, xeric hammock and pasture. Wildlife is varied and plentiful. Bear, bald eagles, deer, squirrel, bobcats, otters and wading birds can all be found at Caravelle.

"One of the most unique things I've



Peggy Perkerson

Although the area has been managed primarily for game species such as dove and turkey, Miller says many types of wildlife – game and nongame alike – benefit from the habitat improvements.

Dan Miller

Camp Branch Creek at the Caravelle Ranch Wildlife Management Area.

William J. Weber

Caravelle supports such a healthy dove population that the GFC has established four 50-acre dove fields.

seen is the large number of swallow-tailed kites that arrive in the spring and spend the summers," said Miller. "I've seen them circling overhead in large groups of 12 to 15 birds at a time."

Swallow-tailed kites are attracted to Caravelle's swamps and bottomlands. They are black and white in color, and shaped like a giant swallow with a scissor-like tail and 4-foot wingspan. They prey on snakes and lizards and swoop gracefully down to pluck birds from trees or large insects from the air.

Caravelle was once a privately owned ranch used primarily for timber production, cattle grazing and private hunting. Acres of bald cypress were cleared to create pastures for cattle and dove fields.

A rancher has a lease permitting cattle to graze on about 2,300 acres. This helps reduce wax myrtle encroachment and disperse the seeds of native grasses and plants, which improves wildlife habitat. The cows also blaze trails through dense vegetation, making travel easier for both animals and humans.

One important note regarding the cattle: visitors to the area should be aware that during the spring and summer months, bulls are likely to be free-roaming among the cows. Hikers should keep this in mind.

Caravelle WMA is open to limited hunting during the established season and the rest of the year to hikers, bird and wildlife watchers, horseback riders and bikers (non-motorized). Except during established hunts, motorized vehicles are prohibited on the area. Visitors must park at the check station located at the main entrance on Highway 19, or at the walk-in area, also located on Highway 19 about two miles south of the main entrance. They may then access the area though the small walk-in gates. Please close the gates when entering or leaving the area.

Plans for Caravelle include a fishing pier on one of the interior ponds, an interpretive canoe trail from the dam at Rodman Reservoir to the St. Johns and the Oklawaha rivers, and an interpretive hiking trail through the area. Miller is optimistic some of these features will be in place by the end of this year.

Half Moon
Wildlife Management Area

By Lt. Joy M. Hill

Half Moon Wildlife Management Area (WMA) is a scenic public recreation area located in the Rutland portion of Sumter County along the Withlacoochee River. Managed by the Florida Game and Fresh Water Fish Commission (GFC) and the Southwest Florida Water Management District, Half Moon was purchased through the Conservation and Recreation Lands (CARL) program in 1989. The intent of CARL is to conserve outstanding examples of Florida's natural resources and historic sites.

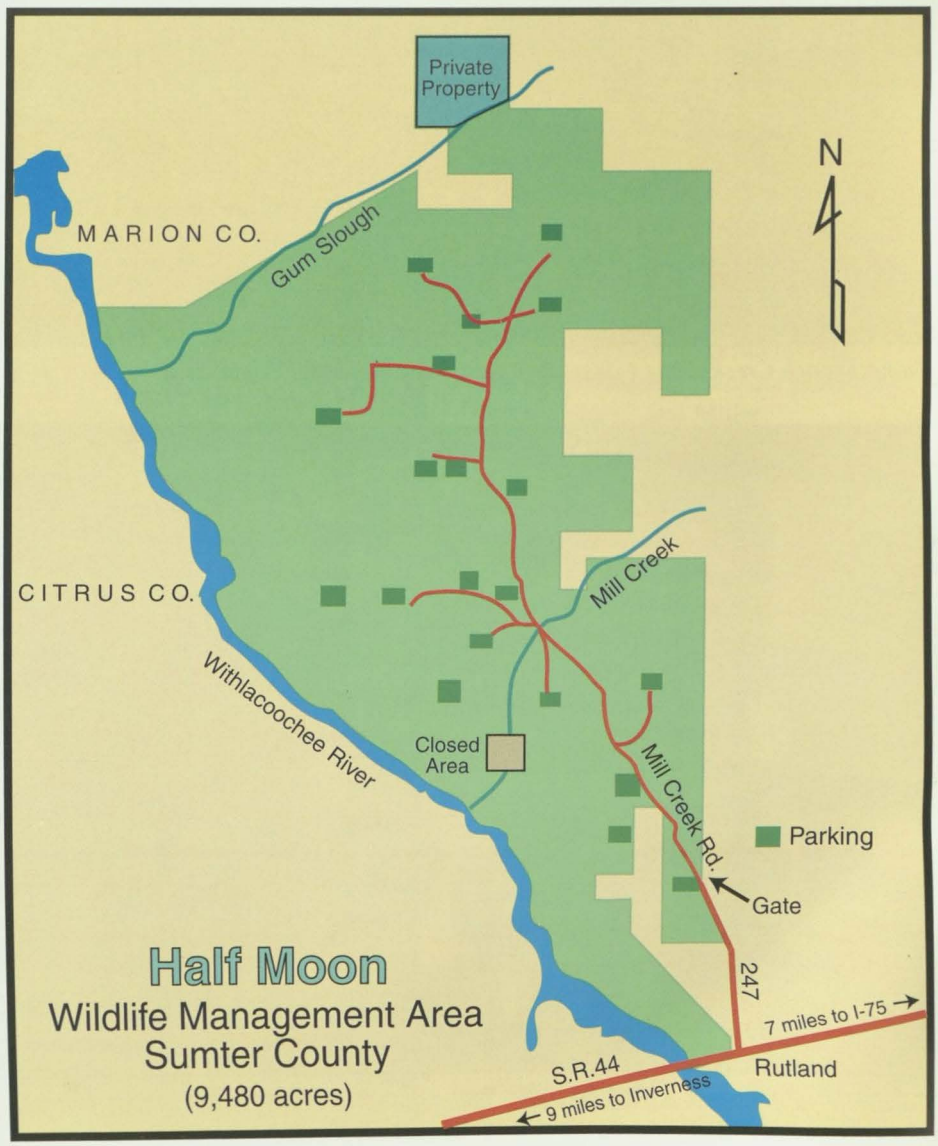
The habitats on this 9,480-acre tract include a mixture of fire-dependent plant communities such as scrubby and mesic flatwoods, xeric hammocks and wetlands. The GFC has an aggressive prescribed burn for the area to maintain these communities and provide habitat for the Florida scrub jay.

Nearly 50 percent of the area's uplands consists of land that was cleared, the majority since 1940, for farming. A reforestation plan is in the works to enhance natural flatwoods restoration on many of these areas.

Pioneers in this area of Florida can be traced to 1857 when the A.W. Rutland family moved from North Carolina and settled near what is now Rutland, Florida. The Rutlands likely received a land grant from the federal government and moved to the area to take advantage of the abundant game and rich palmetto flats, which is good farm land.

The number of settlers increased during the late 1800s and a small town called Alto was established around 1870 near the intersection of Mill Creek and Oxford roads. This community has since disappeared into history.

Pioneers in this area of Florida can be traced to 1857 when the A.W. Rutland family moved from North Carolina and settled near what is now Rutland, Florida.



The Florida scrub jay is one of many species of wildlife found at Half Moon Widlife Management Area.

scrub jab photograph by Charlie Heidecker

Through the years more land was cleared for homesteads, crops and cattle. Bahia grass pastures were established and watermelons were grown extensively. As deed to the property passed hands, most owners continued raising cattle and converted more palmetto scrub to pasture land. Bahia grass sod was even harvested and sold to supplement the cattle income of one of the area's owners.

Beginning in the early 1980s a hunt club leased the tract from its owners for deer hunting. The club membership ranged from 5 to 14 members during the course of the lease. During the club's last year leasing the property, members were limited to taking three deer per year.

Today, Half Moon is a highly sought-after area by hunters seeking a quality hunting experience on public land. Hunting there during all seasons requires a quota hunt permit. The exception is small game season which requires a daily permit.

Half Moon WMA is also a lovely area to hike, horseback ride or bicycle. Horses are not allowed during the hunting season. It is an excellent area for birdwatching. Species seen include the bald eagle, American swallow-tailed kite, sandhill crane, Florida scrub jay, barn owl, red-headed woodpecker, pileated woodpecker, wild turkey, northern harrier, killdeer, wood and mottled ducks, and a large variety of wading birds that visit the freshwater marshes and ponds.

Half Moon WMA is located near Rutland in northwestern Sumter County about 7 miles west of Interstate 75 on County Road 247 off State Road 44. It is about 25 miles south-southwest of Ocala and within a 90 minute drive of Orlando, Tampa and Gainesville.

For more information about public access to Half Moon WMA call (352) 330-1370.

Lt. Joy Hill is the public information director for the GFC's Central Region.

GFC

A freshwater pond at Half Moon Wildlife Management Area.

Night Moves At Half Moon

A new way to connect with natural Florida

Text and photograph by Lt. Joy M. Hill

The Florida Game and Fresh Water Fish Commission (GFC) recently invited people to the Half Moon Wildlife Management Area to introduce them to the sights, sounds and sensations of the woods at night.

"Night Moves" was held on a cold February evening. The kind of night when a quarter moon casts long shadows and the stars appear to be lighting a velvet curtain. It was a night one would keep an ear cocked for critters rustling in the dark while sitting around a campfire telling ghost stories.

Still, more than a hundred people left their warm homes and came out to participate. If you really want to learn about things that are wild, you've got to get out there amongst them. And you have to have patience. If you spend enough time around wild things, you'll be rewarded by something that humans simply can't duplicate.

You might just get to stare into the round eyes of a great horned owl just before it silently swoops down and snatches up a snake for dinner. Yes, you can see it on the Discovery Channel, but that does not compare to seeing it in person. It's the difference between hearing a symphony orchestra on television, and sitting front row center in the concert hall.

Sometimes modern technology comes in handy, like it did that cold February night. Eugene Trescott, a biology teacher from Citrus High School in Inverness, volunteered to teach folks about the reptiles and amphibians that skulk around in the woods and waters at night. He brought along live specimens just in case none showed up at his station.

And suspecting the critters wouldn't be in a singing mood, he brought along CDs and tapes with all the right sounds to illustrate their chorusing. It's a good thing he did. The wildlife were hunkered down in the cold, conserving energy for warmth instead of entertaining human visitors.

GFC programs to help people experience nature, Welcome to the Woods, Know Your Wildlife Management Area, Becoming an Outdoors Woman, to name a few, have a quaint, homespun quality. Wildlife officers and biologists organize and lead them. Instead of having a slick, smooth-running feel to them they are more like wild Florida: different and unpredictable.

They are one way residents can connect to natural Florida.

Florida Flies

By James S. Nagler
Photographs by Tom Evans

In the centuries it took for fly tackle and techniques to evolve to their present state of refinement, countless patterns of artificial flies have been devised. Most have vanished, unmourned, but the survivors provide us with a vast array from which to choose those best suited to our preferences and needs.

Fly-fishing is generally not plagued by the gimmick "hot" lures and fads-of-the-week so prevalent in spinning or bait-casting. When a fly pattern produces consistently, it is likely to remain in use year after year without much modification.

The Florida angler has some advantages over his cool-water counterparts who go in quest of the noble trout. He can get along with fewer patterns in his fly-box, and he doesn't have to worry about "matching the hatch." Florida freshwater fish are less selective in their feeding habits than the finicky trout.

Bass bugs and panfish poppers are the bread-and-butter lures. However, there are times when it pays to go deeper. It may be best to use sinking (wet) flies for panfish and floaters for bass.

Bass Bugs

Store racks are full of bass bugs and poppers in all sizes, shapes and colors. Most of them resemble nothing any fish has ever seen. Nonetheless, they are enthusiastically accepted by bass, large and small. If you had to restrict yourself to a single fly-rod lure for largemouth bass, a bug would be about the best choice you could make.

Feather tails, waving hackles and quivering rubber legs all add further enticement (for the angler as well as the fish). Most feature a fat, semi-spherical body with a flat or dished-out face, but a ▷

A good bass popping bug selection.
(Page 19) A bluegill caught with a fly rod.

few have a longer, thinner silhouette to give the impression of a baitfish skimming along the surface. The frenzy popper is a good example of this latter type. Their attraction for bass depends, in large part, upon the action imparted to them by the angler, and not so much upon their specific design or color.

A typical fly-fishing outfit for bass consists of an 8½-9-foot rod rated for a size 8 bug-taper floating line. Unfortunately some bass-bugs are so large and heavy that they cannot be cast with such gear. If you want to use these oversize versions, you will have to go to a heavier stick capable of handling a 10-weight line. But be sure to stick to a rod size you can cast easily with your tackle, and you will be much happier out on the water.

Other versions of floating lures are designed to look more realistic, suggesting mice, frogs or dragonflies. In the case of mouse and frog imitations, plump bodies are usually tied of spun deer body hair, which is hollow and floats well. The mouse is tied with natural color fur, with a trailing tail and perhaps eyes as well. Most anglers give it a slow, constant retrieve to mimic a mouse swimming steadily toward a safe haven.

Frog imitations have a more colorful body and are tied with rear legs that splay backward and outward. Some also have eyes. A repetitive stop-and-go retrieve, punctuated with periods of inaction, gives them the appearance of a swimming frog, as the legs appear to kick backward.

Bugs made from spun deer hair have the feel of something alive, which encourages bass to hang onto them longer. Usual hook sizes range from 2 to 6.

Dragonfly or damselfly imitations are constructed with a thinner floating body, large round head and wings protruding at right angles. They can be blue, green or any color the natural insect exhibits. Once cast, they are left to float quietly for a while, and given only the slightest action to suggest a helpless water-logged insect. If you examine a living dragonfly trapped in the surface film, you will see that its wings transmit visible intermittent buzz, and you should try to mimic this as closely as possible.

Bass Flies

The most popular subsurface bass flies are streamer types. This includes minnow simulations and the various "Breathers." In Florida bucktail streamers are preferred for baitfish imitations because they hold up better than feathers against the rough treatment inflicted by the abrasive jaws of a bass. Many old standbys, such as the Mickey Finn, brown and white, blacknose dace, etc., are effective for largemouths. Also try the new models such as the gold or silver shiner flies in sizes 2 to 6.

Other patterns include the leech and fluffy marabou types. Both have a seductive, undulating action in the water.

No fly-box would be complete without a good assortment of wooly buggers. These are basically wooly

worms with a marabou tail. The bass angler should carry them in olive and black, in sizes 2 to 6. Modifications include the crystal buggers, which incorporate flash in their tail and body, or those that sport eyes of gold or silver beads. When retrieved with short pulls, the marabou puffs during each pause, giving them a most lifelike appearance. Most fish are attracted to them, including bass, very large crappie, bluegill, and redear. If I had to select a single wet fly pattern for all my angling, this would be it.

Another excellent choice is the muddler minnow. This resourceful fly is capable of imitating any number of creatures, including nymphs, grasshoppers, dragonflies or minnows of several kinds. The traditional design features a head of natural spun deer hair with an untrimmed collar at the back. Pick the larger sizes for bass.

Panfish and other Flies

If panfish is your specialty, your equipment will be lighter and easier to use. Suitable rods range somewhere between 7 and 8 1/2 feet for line sizes from 4 to 7. Rod and lines at the high end will subdue hefty panfish and respectable bass.

Among surface lures, panfish poppers, pushers and spouters are certainly the most often employed, followed closely by little sponge-rubber spiders and beetles. This group accounts for millions of smaller bream, and an occasional trophy.

Diminutive bluegills will go bananas smacking tiny trout dry flies. If you wish to tempt larger individuals, you have to offer them something more substantial. For this, there are many flies that fill the bill.

In most panfish situations wooly buggers, in sizes 8 to 10, are hard to beat. Colorful miniature streamers sometimes work well on specks. They are less effective for bluegills and shellcrackers, which are not accustomed to chasing their food.

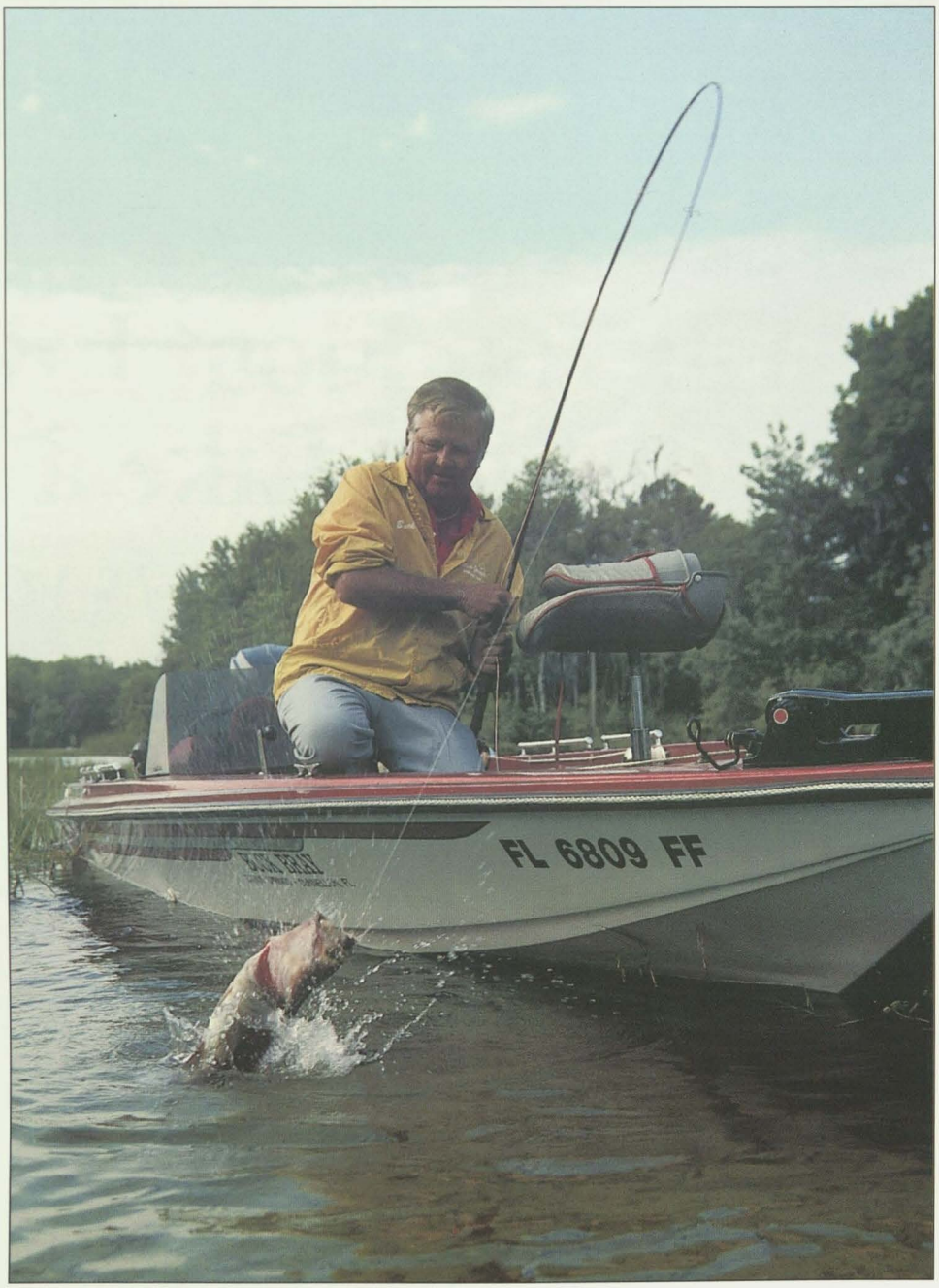
Grasshoppers, crickets, bees, ants, etc., work well in the shallows around overhanging shrubbery. At any fishing spot there are a myriad of insects in their larval and nymphal forms, invisible to humans. These insects, in an immature aquatic stage, are food for foraging fish. Flies attempting to represent various nymphs are among the most potent weapons in the fly-angler's arsenal.

No discussion of panfish flies would be complete without a mention of wooly worms. They suggest almost any nymph that swims. Bluegills and shellcrackers find them irresistible when drifted near the bottom and given action with short line pulls. Try this in the spring over bedding areas. Most popular are sizes 8 to 10 in black, olive and yellow.

Chain pickerel are toothy predators that prowl thick vegetation looking for opportunities to dart out and ambush prey. Rapid strips of the line past these spots should provoke strikes. Pickerel are suckers for properly manipulated flies. The frenzy popper is a good bet. Also try bucktail streamers with lots of mylar flash in the body and wing.

This gives you some idea of the groups of flies which are effective for freshwater fishing in Florida. When selecting your flies, keep in mind the type of fishing you like to do best.

James S. Nagler of Lake Placid fly-fishes in Europe and the United States.



It's a challenge to catch fish by casting an almost weightless fly.

Soc Clay

Will You Float Like a Cork or Sink Like a Rock?

The choice is yours!

By Lt. Richard Moore

Do you ever find yourself repeating a common phrase, only then to wonder who makes up those silly sayings? For example, take the one that says, "He was up a creek without a paddle." This is supposed to infer someone is in quite a predicament. The fact is I would much rather be up a creek without a paddle than down a creek without one. Most of us could manage to drift back down a creek, but moving upstream can be tough even when properly equipped. If the truth were told, a real predicament is to be on any body of water without a life jacket.

Life jackets, otherwise known as personal flotation devices (PFDs), are an absolute necessity for any trip on the water. Other than being required by law for all boats, to begin a boating adventure without one is just plain foolish.

After enjoying Christmas with their families, three friends decided to spend the following day fishing on the Harney Pond Canal near Lake Okeechobee. The weather was perfect and the fish were biting. Suddenly, the peaceful afternoon took a dramatic turn for the worst as the wind began to blow fiercely and the waves began to build. The trio hastily secured their tackle and attempted to make a mad dash back to the boat ramp. The friends soon found themselves thrown into the water as waves swamped and capsized their boat. Another boater, who was also attempting to reach the ramp, saw the commotion and tried to assist. While trying to rescue the three, the good Samaritan's boat took on water and capsized. This series of events, which could happen to anyone, resulted in the drowning death of both boat operators.

There is no doubt that life jackets save lives. The Florida Game and Fresh Water Fish Commission recently asked for testimonials from people who believe PFDs saved their lives. One response was from Greg Fenwick of Palm Bay. Greg, his brother Bob, and a friend named John Bolan were fishing from their 20-foot boat in the Atlantic Ocean out of Sebastian Inlet. By 3 p.m. the trio noticed a storm front was heading their way and decided that it was time to head back to shore. The storm approached much faster

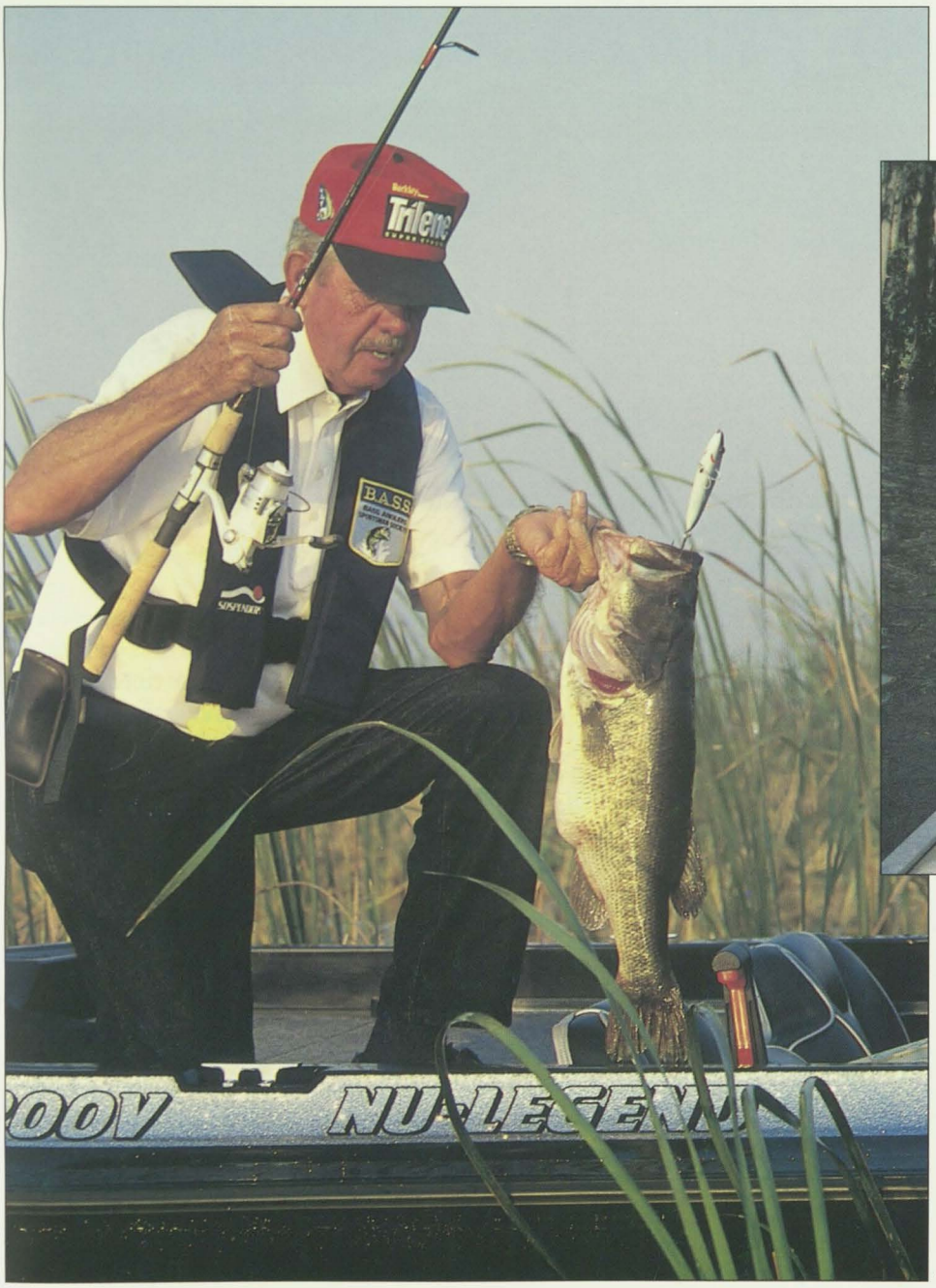
than expected, and soon their boat was being tossed about by 10- to 15-foot seas.

With life jackets on, their attempt to slowly motor into the waves soon failed as the engine stalled halfway up a wave. Realizing that the boat was going over, the men jumped clear of the boat. They spent the next 19 hours clinging to their overturned boat. Bob Fenwick recalls, "We were all physically exhausted, but John was struggling the most. Greg and I were afraid he was going to be swept away, so we tied a line around his wrist and attached it to the boat. It's a good thing we all had our life jackets on. They kept us afloat through the night." The men were eventually rescued when a U.S. Coast Guard helicopter spotted them.

Modern life jackets come in all sizes and shapes, and each has specific advantages and disadvantages. The Type I offshore vest will provide the best flotation and will turn an unconscious person face-up, but is very large and bulky. A Type II near-shore vest is fairly awkward to wear and is intended for calm waters. A Type III vest is very comfortable and provides adequate flotation for most wearers, but may require the wearer to turn to a face-up position in the water. The U.S. Coast Guard recently approved manually inflatable Type II and III life vests which perform comparable to a Type I offshore vest when inflated by the built-in CO2 cartridge. These devices are very comfortable for extended wear.

Whether you enjoy fishing, hunting or any other outdoor activity involving Florida's abundant waterways, keep in mind how much better it is to float like a cork than to sink like a rock. Research the various types of life jackets, choose the one that is right for your activities and wear it.

Lt. Richard Moore is the assistant boating safety coordinator for the Florida Game and Fresh Water Fish Commission.



Soc Clay

Richard Moore

The type III inflatable PFD (left), is very lightweight and less bulky than the conventinal PFD. When inflated by pulling the handle (above), the PFD fills with CO2 and provides 35 pounds of bouyancy.

Forever Florida

By Susan Cerulean
Photographs by Jim Angy

So often, when we take the time to probe, we find stories behind stories behind stories, each one lapped to the next like something organic, the needles of a cypress tree, say, or the feathers on a wing of a sandhill crane.

That's certainly the case with Forever Florida, a new 3,200-acre wilderness preserve just south of St. Cloud, open to the public for getaways and guided tours.

At first glance you might think this a simple ecotourism destination for folks interested in sites not man-made. You might think Dr. William Broussard and his wife Margaret are just another savvy couple, carving out their piece of the nature tourism market.

But you'd be just scratching the surface of the story of what Forever Florida is all about, and how it came to be.

One story about Forever Florida begins with a boy wandering, trespassing really, on wild land south of the Crescent J, a 1,280-acre working cattle ranch owned and managed by his family. Slipping under a wire fence, he loved to roam the land then known as Canaveral Park South, drawn to its wildness. There, in a remote swamp along Bull Creek, he once glimpsed the most elusive of our state's creatures, a Florida panther. The boy's name was Allen Broussard.

Other stories are tied to the failed dreams of 500 people who bought land there, lured into a classic Florida scam by slick, false promotional literature. Just as thousands of snow-bound northerners bought into swampy Golden Gate estates near Naples during the 1950s, the owners of Canaveral Park South lots bought their property sight unseen, but under the assumption it abutted the beaches of Cape Canaveral (actually about 40 miles away). No roads were constructed, nor were property lines delineated, so the landscape remained wild, although gradually overrun by trespassing squatters.

Bull Creek flood plain at Forever Florida.

Allen Broussard had embarked on a promising career as a wildlife ecologist, praised by his peers and excited by the questions of his field. But his own dreams were about to be short-stopped by a heart damaged in a bout with a rare cancer. As he lay in a hospital bed, nearing the end of his life, Broussard thought a lot about the wild places in central Florida he had wandered as a young person, and confided a wish to his father that those lands might be preserved.

After Allen's death at age 29, his parents harnessed their grief to their son's dream, beginning with the establishment of the Allen Broussard Conservancy. They could find no public or private land-buying organization willing to take on the tangle of acquisition and management nightmares presented by the Canaveral Park South property. The Broussards walked into the Osceola County Courthouse, photocopied the tax rolls, and began sending individual letters to all 500 landowners offering to buy them out for $400 an acre, using their own money to pay them.

The Broussards' letter prompted visits by some of the far flung, curious landowners, but when they have come, says Dr. Broussard, they can't find their lots on the unsurveyed land.

"Every single person who has looked for their property, and heard our story, has sold out to us," says Broussard. "And hardly a week goes by that we don't make another purchase. The only thing that limits us is the funding. We've got 275 parcels left to buy."

Forever Florida is a nonprofit organization, not a family foundation, and the Broussards have taken up their

tourism project to enable them to keep their nonprofit status, and procure the funds to manage the property once it is under single ownership.

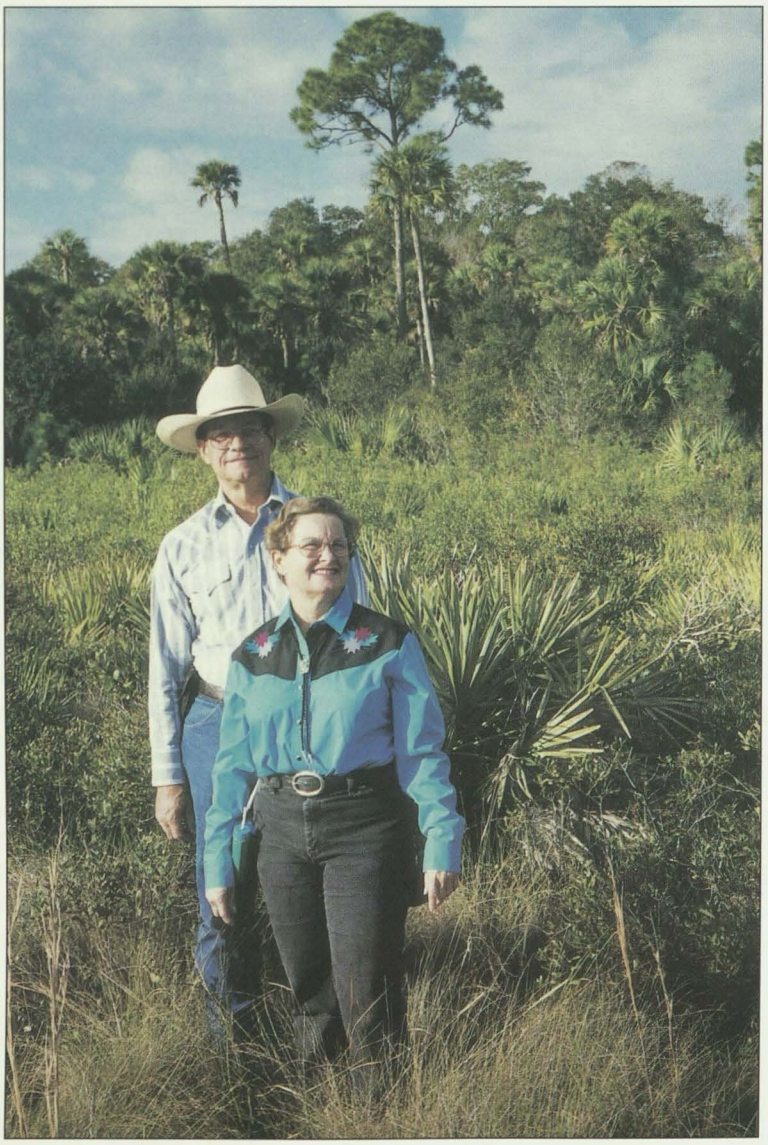
What is important to the Broussard family is that Allen's dream is beginning to come true.

"Although nothing can make up for his loss to us or to the world of living things," says Allen's father, Dr. William Broussard, "Perhaps our efforts to save some of them through the designation and protection of Forever Florida will help them in another way."

There are many more stories woven into the living fabric of the property known as Forever Florida. Some of them will be the experiences of visitors who come to relax and enjoy the beautiful natural landscapes protected by a loving family.

Susan Cerulean is the Watchable Wildlife coordinator for the Florida Game and Fresh Water Fish Commission.

Allen Broussard at Cape Canaveral, 1987



The Broussards at Forever Florida.

Visiting Forever Florida and the Crescent J Ranch

Directions: take US 192 south from St. Cloud to Holopaw, then turn south on US 441. Drive 7.5 miles; site is on your left.

What to do: Cracker "cruisers," open-sided, elevated coaches, transport visitors on 2.5-hour tours departing at 9:30 a.m. and 1 p.m. Experienced guides narrate your journey through a cattle ranch, herds of cracker horses and cattle, and then the nature preserve itself, teeming with sandhill cranes, swallow-tailed kites, alligators and hawks and native landscapes.

A petting zoo, pony rides and a birthday pavilion ensure that children enjoy their visit; guided horseback rides and bicycle rentals are also available.

For more information: call 1-888 957-9794, or e-mail **foreverflorida@mpinet.net.**

Hunting on the Internet

Internet opens information world to hunters, anglers and outdoor folks

By Lt. James Huffstodt

Stop right there! I know what you're thinking: The Internet and computers are for technical nerds with thick glasses and plastic pocket protectors. Well, think again. The Internet is a door to a world of information and services involving every aspect of hunting, fishing, camping, boating and wildlife viewing.

Don't be intimidated by all the jargon: hyperlinks, search engines, Web browsers, Web sites, URLs, down-loading, up-loading, etc. Surfing the Internet doesn't require a computer degree or technological bent. It's simple and rewarding. You learn best by doing.

For years I avoided the Internet. I was intimidated by television remote controls, VCR timers, automated tellers, the clothes dryer, telephone intercom systems, cell phones and Fax machines. Computers scared me worse than Mike Tyson.

My message to computer "scairdy cats" is say goodbye to fear and join the fun. The Internet is a user-friendly tool that will immeasurably enhance your enjoyment and knowledge of fishing, hunting or any other outdoor sport.

Before you embark like John Glenn into cyberspace, let me suggest you purchase the *PC Novice Guide To Internet Basics*. This special magazine reprint is available at most major bookstores. It's chock-full of easily understood and brief answers to your Internet questions. Try starting with the article *Your First Time Online – What To Expect When You're On The Net*.

Another smart move is to get yourself a co-pilot. Everybody has at least one friend who "speaks computer." Most will be glad to act as your guide for that first expedition into cyberspace. After that, you'll want to roam by yourself like a kid in a candy store.

Your first stop should be the Florida Game and Fresh Water Fish Commission's (GFC) Web site (also called a Home Page). The Internet address (or URL) is: **www.state.fl.us/gfc/**. You'll find this an easily accessible treasure trove of information about current hunting and fishing regulations, publications, news releases,

News
Hunting
Fishing
Wildlife Viewing
Publications
Questions?
Activities for You
About GFC
Links
For Educators
Florida Trails
FLorida Panther Net
How You Can Help
E-mail us

1999 Florida Wildlife Photo Contest

The GFC fishing page will link you to more than 500 other sites dedicated to the sport.

education resources, wildlife viewing sites, commonly asked questions, links to other relevant sites and much more.

Think of a Home Page as one huge mall containing doors leading to hundreds of stores in which you find information. Use your electronic mouse to click open the door to the store which you want to visit. Keep on clicking and plunge deeper into the information-rich interior. If you get confused or lost, just click on the Home Page icon and you're back where you started. Simple as that!

Let's take a quick trip through the GFC Web site. Let's say you click on the option titled: "Questions?" Up pops a series of topics such as "What job opportunities are available?", "How Do I Sign Up For A Hunter Education Class?" or "What Can I Do About Nuisance Wildlife?"

Say you want to go on a wildlife-viewing excursion this weekend. Point your arrow on the Wildlife Viewing sentence, click your mouse and up comes a list to choose from. Included are:

- Wildlife Viewing by Regions
- Wildlife Viewing by Cities
- Wildlife Viewing by Species
- Wildlife Viewing at Mitigation Parks
- Index of Wildlife Viewing Sites
- Articles About Wildlife Viewing
- Land Cover Map of Florida
- Events, Festivals, News
- Great Florida Birding Trail.

You have time to do a little traveling so you point the arrow on Wildlife Viewing by Cities and click your mouse. Up pops a multi-colored map of Florida featuring the cities for which information is available. Select Fort Myers and a list of 12 sites in southwest Florida appears including the Charlotte Harbor Environmental Center and the Fakahatchee Strand State Preserve.

A link to an information page on each site is provided. That's where you will find directions to say, the Corkscrew Swamp Sanctuary; a description of the sanctuary, what wildlife lives there that the Audubon Society runs it and links to related sites. For instance, the Corkscrew Swamp page provides a link to Florida State Parks – Southwest Region. Wherever you go on the Internet there always seems to be another door to open. It's easy to see why surfing the net is so popular.

The Florida Panther Net will lead you to a cornucopia of knowledge about big cats and endangered species. There you will find connections to Defenders of Wildlife, Discovery Channel and the American Museum of Natural History. If you are a fishing enthusiast, the GFC Web site is your link to state-maintained boat ramps. The page also includes parking lot capacity, the number of boat lanes and directions to the ramp. Click on the appropriate map and you get an even better idea of the ramp location and how to get there. Zoom in for a closer look or zoom out for perspective. Another great page provides fishing tips for black bass and six other popular freshwater species.

The GFC's hunting page is similar in format and equally useful. Tired of trying to run to a GFC office before 5 p.m. to get a wildlife management area regulation brochure? The current hunting regulation brochure? A quota-permit status report? Well, your worries are over. This page has it all plus hunt forecasts, public shooting ranges, license requirements and much more.

Once you start exploring a subject on the Internet you quickly find that there are thousands of interesting sites. The GFC page, like many sites, will connect you to other sites and people that share your interests. There are search engines like Alta-Vista (**www.alta-vista.com**) or Yahoo (**www.yahoo.com**) that will link you to the information you want. You just plug in the subject and the search engine pops up all kinds of relevant Web sites.

Informative, Easy-to-Use Sites

• Bowhunting Net (**http://bowhunting.net/**). Chock full of articles, product sites, questions and answers, and a chat room where you can talk bowhunting with other enthusiasts from all over the world.

• Buckmasters Whitetail Magazine Online (**http://www.buckmasters.com**). The site featuring three magazines: *Buckmasters*, *Rack*, and *Beards and Spurs*. Includes a list of hunting sites, chat room and on-line store.

• *Sports Afield* (**http://www.sportsafield.com**). A selection of articles from America's premier outdoor sports magazine. Issue oriented with a variety of hot topics from wolf reintroduction in Montana to Everglades protection.

• Hunt America: (**www.huntamerica.com/**). Includes information on taxidermy, trophy talk, handgun hunting, deer hunting, varmint hunting and chat option.

• Pro Bass Fishing (**http://www.probass.com/**). Pages on fishing tips, guide services, boats, chat rooms, links to other fishing sites.

• The Ultimate Bass Fishing Resource Guide (**http://www.bassangler.com/**).

Lt. James Huffstodt is the public information coordinator for the GFC Everglades Region.

1998 Wings Over Florida Certificates

Wings Over Florida recognizes and encourages bird-watching in the state. Full-color certificates are given at four different levels: chikadees, frigatebird, bunting and caracara depending on the number of bird species spotted in the wild.

Chickadees (50-149 birds seen)

Genevieve Alt	Parkland
Willard L. Arp	Melbourne
Barbara Smith Arthur	Melbourne Beach
Jackie Assisi	Palm Beach Gardens
Thomas Bartell	Tallahassee
Martha Beyers	Leesburg
Susan Botts	Orlando
Rae Bourquein	Mulberry
Lauren Brooks	Orlando
Joyce Byington	Lakeland
James C. Calhoun	Maitland
Chris Davis	Milton
Richard A. DeBonville	Edgewater
Kendra Edmondson	Hollywood
Linda Everett	Ozona
Rebecca Falkenberry	Winter Park
Bonnie Fetter	Scotia, N.Y.
Frank M. Garcia	Fruitland Park
P. Gotschall	DeLeon Springs
Doris M. Graves	Lady Lake
David Gunsaullus	Orlando
Carol Hansen	Melbourne Beach
Jim Hazelton	Cocoa
Ethel M. Hill	Dunedin
James Hulvey	Mt. Sidney
Christina Hyson	Oviedo
Mathew Hyson	Oviedo
Jay Jolicoeur	Okeechobee
Dede Jolicoeur	Okeechobee
Amy Lawton	Casselberry
Kathryn Dyal Lewis	Tallahassee
Shirley Lux	Lakeland
Sandra March	Hudson
Cheryl McCullers	Tallahassee
Carolyn Merrill	Pensacola
John Miller	Tallahassee
Jane B. Moyer	Panama City
Anna-Louise Nieboer	Kissimmee
Karen Nottingham	Orlando
Kimberly C. O'Brien	Rockledge
Margaret N. Oglesby	Oxford
Carol Place	Delray Beach
Richard Scheller	Sun City Center
Ellen Schultz	Weston
Doris Sinclair	Naples
Richard T. Sloane	Oviedo
Janell Smith	Orlando
Derrick Smith	Rockledge
Whitney Smith	Rockledge
Marilyn Smullen	Port Richey
Heather Staton	Orlando
Crystal Staton	Orlando
Roberta M. Stevenson	Dunedin
Adrian Stevenson	Miami
Grace Strattan	Davie
Melody Strattan	Davie
Judith Strattan	Davie
Noah Strattan	Davie
Ken Strattan	Davie
Traci Templeton	Huntsville
Alison Underwood	Tallahassee
Janice Vacula	Cocoa
Kelley G. Weitzel	Jacksonville
Paige Willard	Winter Springs
Gerald L. Williams	Perry
Dorothea P. Zysko	Naples

Frigatebird (150-249)

Chuck Bailey	Melbourne
Trish Bailey	Melbourne
R. Gifford Beaton	Isle of Palms
Helen I. Beers	West Palm Beach
Brigitte Berbotto	Lake Placid
Katy Black	Crawfordville
Pamela J. Bowen	Winter Park
Forrest S. Clark	Kissimmee
Daniel De Castro	Gainesville
NancyDeBonville	Edgewater
Victor R. Doig	Newberry
David A. Edwards	Keystone Heights
Diane R. Eggeman	Tallahassee
Susan Epps	Ft. Lauderdale
Judy Gillan	Havana
Esther M. Graves	San Mateo
Heidi Kropp	Tallahassee
Richard Lorber	Hollywood
Vincent P. Lucas	Naples
John W. MacFarland	Aston
W. Maddox	Wauchula
James H. Meister	Homosassa

April C. Middleman	Hollywood
Kyle Miller	Orlando
Nestor Prosper	Port St. John
Dr. Arlyne Salcedo	Cape Coral
Geraldine Sanderson	Ft. Myers
Douglas G. Scofield	Pompano Beach
Carrie Sekerak	Trilby
Steven Specht	Marianna
Janice Stencel	Plantation
Bill Stokes	Winter Park
Rosemary Tiberio	Lake Wales
Christopher Tucker	Okeechobee
Melissa Tucker	Okeechobee
Megan Van Vleck	Palm City
Americus H. Woodward	Bradenton
Peggy W. Woodward	Bradenton

Bunting (250-349)

John W. Ault	Lake City
John Bailey	Tallahassee
Scott Flamand	Gainesville
Jere French	Gulf Breeze
Carl Jensen	Bradenton
Thomas S. McCaskey	Pensacola
Edith V. Miller	Sarasota
Robert H. Paxson	Merritt Island
Sue Riffe	Babson Park
R. Edwards Rose	Gulf Breeze
Merilu C. Rose	Gulf Breeze
Betty Salter	Rockledge
Cary L. Salter	Rockledge
Brian Specht	Marianna
Richard Taylor	Deerfield
Scott E. Trebatoski	Ft. Myers
Ann D. Turner	Jacksonville
Wilma Barkley Zane	Boynton Beach

Caracara (350 or more birds identified)

Richard L. Cunningham	Miami
Tom Palmer	Winter Haven

Applications for a Wings Over Florida award are available by contacting the Birding Projects Manager at 620 South Meridian Street, Tallahassee, Florida 32399-1600, or call (850) 414-7929.

Birding Festivals

May 8
Moss Park Wading Bird Festival
Orange County
Contact: Joni Ellis and Julie Hovis
(352) 732-1225

September 30-October 3
Florida Birding Festival
Clearwater
1-877-FLA-BIRD

October 2-4
Florida Keys Birding and Wildlife Festival
Marathon
Contact: Lori Haynes
(561) 625-5132

November 11-14
Space Coast Flyway Festival
Titusville
Contact: Chamber of Commerce
(407)267-3036

BOOK REVIEW

Hernando De Soto Among the Apalachee; The Archaeology of the First Winter Encampment
Charles R. Ewen and John H. Hann
238 pages (Gainesville: University Press of Florida, 1998)
$29.95
ISBN 0-8130-1557-x

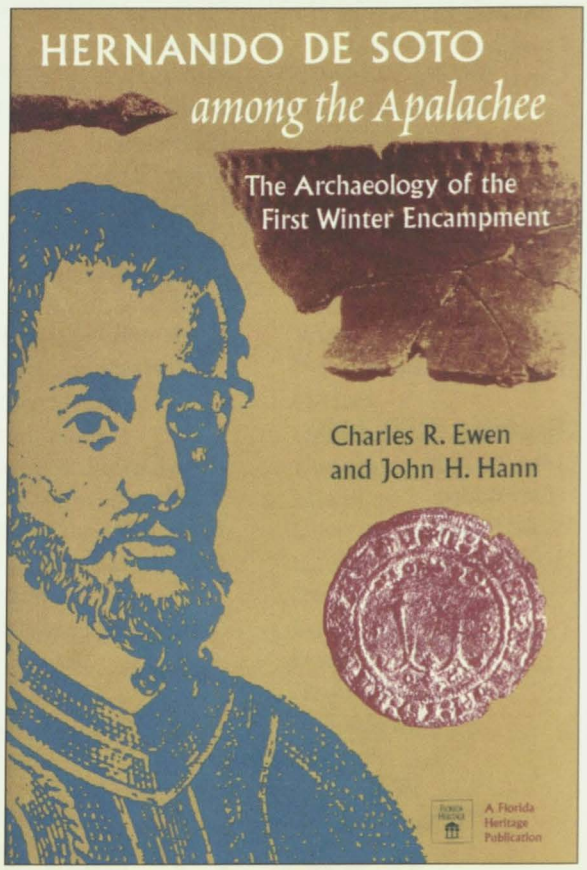
Charles R. Ewen and John H. Hann make a workmanlike effort to satisfy a diverse audience with *Hernando De Soto Among the Apalachee*. The book is written for both academics and lay people: the professional historian and the amateur; the working anthropologist and the armchair enthusiast. It's an interesting attempt that sometimes falls short. At times *Among the Apalachee* is a fascinating read that can trigger discussion on a wide range of issues. But wander away from your camp and like a De Soto soldier, you risk finding a hostile environment waiting to destroy your desire to continue. That's too bad, because *Among the Apalachee* is an interesting journey into Florida's past.

De Soto and his party of about 2,000 spent the winter of 1539-40 in an Apalachee village located on a hillside opposite where the Florida State Capitol is today. That the Spaniards wintered in what became Tallahassee had been a theory, an educated guess, until 1987. That's when legendary Florida archaeologist Calvin Jones, noticing land once owned by former Governor Martin was being prepared for development, began poking around and found some chain mail, the links the conquistadors wore as armor. This touched off a frenetic rush by historians, archaeologists, conservationists and others to excavate the site before it was developed.

The formation and work of this ad hoc coalition in itself is an interesting story. The information uncovered at the site proved so valuable that the authors write, "It is now virtually impossible to do any research on De Soto entrada without referencing the Governor Martin site." It is from this platform than Ewen and Hann begin exploring Apalachee culture before and during the encounter and the mind set of Americans and Spaniards.

Once the invaders pushed inland from Tampa Bay the natives started telling them about the Apalachee. They were the biggest, meanest, toughest warriors in the land. The natives taunted the Europeans with what would happen once the Apalachee got their hands on them.

The authors describe the conquistadors as an "aspiring corps of venture entrepreneurs... besieged for nearly five months... ambitious men, in difficult situations with a lot at stake." They were looking for riches in a hostile environment among a people they made little attempt to understand. When these two cultures collide the brutality is almost incomprehensible. The authors let their facts speak for themselves. They write "What this says of the conquistadors' humanity is for the reader to decide."


HERNANDO DE SOTO
among the Apalachee
The Archaeology of the First Winter Encampment
Charles R. Ewen and John H. Hann
A Florida Heritage Publication

The Spaniards fought their way across the Aucilla River and into Apalachee territory where they found a bountiful land. Fields of beans, corn and squash stretched for miles. At a village with more than 200 structures called Anhaica, ironically located along Tallahassee's Apalachee Parkway, De Soto confiscated provisions to sustain his party through the winter and supply it for its trek north and west to the Mississippi.

As they tell the story, Ewen and Hann pose some questions that will keep amateur historians and students busy for a long time. They propose that the Apalachee were a people in transition when the Spaniards arrived. They note indications of a culture collapsing pre-dating De Soto. Mound building discontinued; pottery making in decline; a status system in retreat all occurring before the contact period. Their point is that the diseased-induced catastrophic cultural changes inflicted upon Native Americans by the European invasion may not be accurate in this case.

By proposing the theory early in the book the authors enable the readers to examine the scholarship of the Apalachee and Spanish encounter with fresh eyes. Included are new translations of three 16th-century narratives written and told by members of the De Soto party.

While reading De Soto *Among the Apalachee* you may labor through some sections and become totally engrossed in others.

– Reviewed by James Call

***The Wild Heart of Florida*: Florida Writers on Florida's Wildlands**
Edited by Jeff Ripple and Susan Cerulean
130 pages (Gainesville: University Press of Florida, 1999)
$19.95 (paper)
ISBN 0-8130-1656-8

The Wild Heart of Florida is an interesting collection of 19 essays exploring the many reasons why people are attracted to natural, undeveloped Florida. Disclosure requires mentioning that the work of some of the writers has appeared in *Florida Wildlife* and that proceeds from the book will be donated to The Nature Conservancy, a kindred spirit.

Among the 18 contributors to the project are *Miami Herald* columnist Carl Hiaasen, *St. Petersburg Times* columnist Jeff Klinkenberg, and *Times* reporter Julie Hauserman. Include these three among Florida's many wonderful natural resources. Guard the borders to prevent them from ever leaving the state.

Their essays are celebrations of life, of nature and the hope that people can find a way to preserve wild areas. The Hiaasen article is a tour of the Keys that began when he was six and ended with his son as a college student. He cites the degradation of the Everglades and then writes, "This is not what I want to show my son." Still the younger Hiaasen fell in love with the place, like his father and grandfather did.

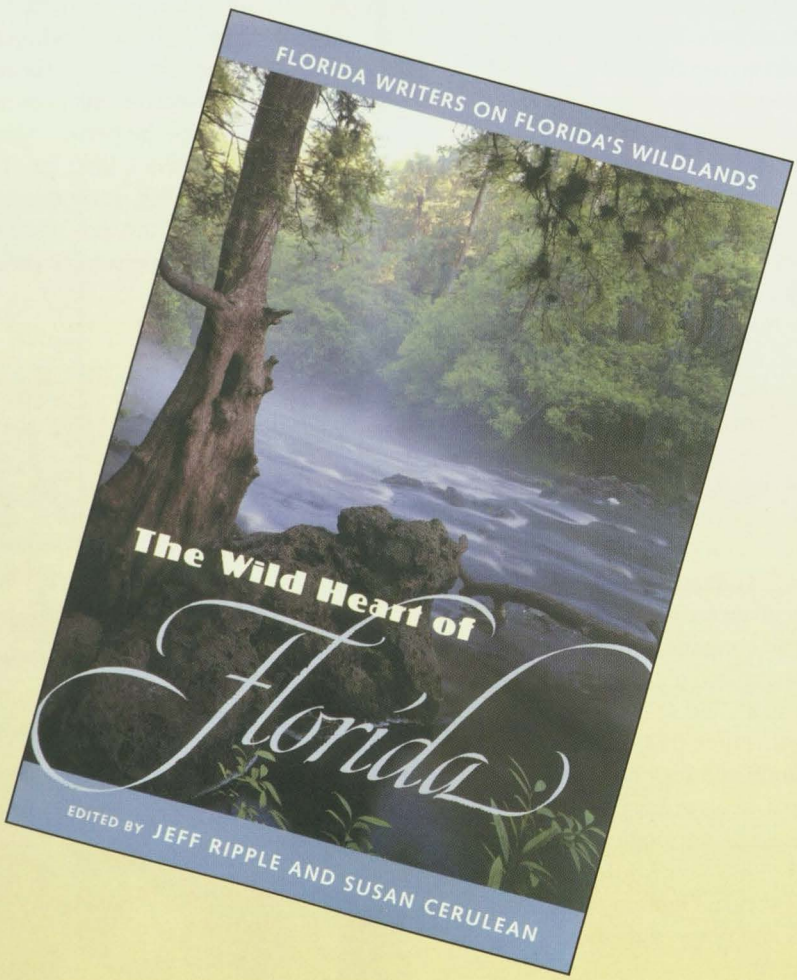
Klinkenberg explained his anxiety about exploring the Everglades with a 70-year old gladesman who had a 30-year history of heart disease this way, "The Everglades is the largest roadless area in the lower forty-eight states, and I am a city boy." And Hauserman wrote this about a north Florida beach: "It smells like Florida ought to smell, salty and clean and blue."

Their warmth, humor and apparent sincerity easily persuades a reader that Florida is special and the undeveloped areas should be protected and preserved. Their style contrasts with a few of the other writers who seem to use their essays solely to vent anger about the consequences of civilization. It's a risky approach that may alienate readers by calling to mind a parochial school where students feel guilty for just being.

Over-all *The Wild Heart* is a fun read. Get 18 wordsmiths together and you will find some interesting observations. Lola Haskin described her relationship with the land as a marriage. "... and like a marriage it rewards attention ... (like) the tiny purple flower which, held close to the eye, shows itself as orchid ... ." Randy Wayne White thought he knew the shore of southwest Florida until he was out in the Gulf one night when an electrical failure hit Pine Island. The island had become "... a black thing elevated, a dinosaur shape afloat. It might have been the current year. It might have been a thousand years before." Mary Tebo noted that in the long-term it's irrelevant who owns property because "...the Florida woods would always wrestle for the right of way." She then used a trip down the Tallahassee-St. Marks Trail to show what she meant. Janisse Ray crafted a compelling simile that captured the conundrum Florida faces when she described a forest at the intersection of two roads: "It stands out like a sky-scraper in a refugee camp ... ."

The Wild Heart of Florida is a clever little book; filled with humor, insight and thoughts on what in Florida we should value.

– Reviewed by James Call



Wildlife Friend: Safari Man

Text and photograph by James Call

Nine years ago Rodger Tripp saw an opportunity to combine his interests, training and talents into a career that could have a lasting impact by changing how children look at the world. He became Safari Man, storyteller and folk singer to the pre-school and elementary school age groups. Tripp delivers songs and stories laced with a conservation message.

"I'm an educational entertainer," said the former pre-school director. "Kids learn through play. Once I introduce what I'm singing about or talking about through play (I get them) excited about finding out about things, about imitating, exploring."

Walk in on a Safari Man performance and it may be hard to see there's more going on than a bunch of kids singing their ABCs while barking like pups. But this little exercise may be nourishment for the brain. A child of two has twice as many synapses in his brain as the average adult. These connections are waiting for specific assignments, like reasoning, remembering, etc. A recent report by the UCLA School of Medicine reveals that the ones that aren't used are weeded out and lost forever. There's a growing body of evidence that music stimulates some of the more important connections.

Music is universal; all cultures create it. A University of Wisconsin experiment showed that music is far superior to computer instruction in enhancing children's reasoning skills for learning math and science. Some researchers argue that music is like food for the brain and may be a biological imperative, such as language.

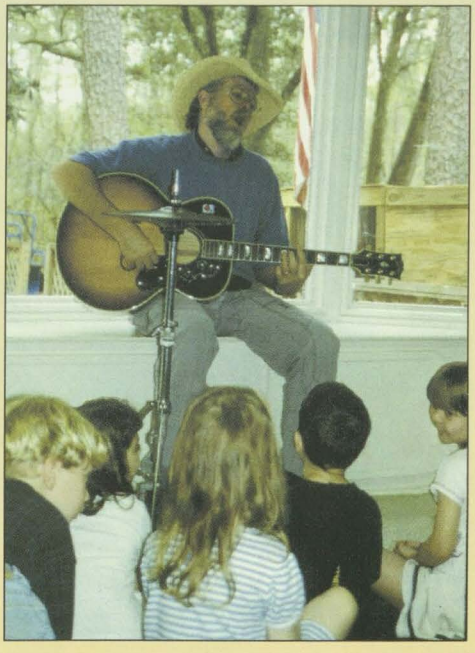
The academic studies back up what Safari Man has seen while performing all over Florida, Georgia and Alabama. He sings and plays with about 1,000 kids a week.

"A lot of kids will not listen to anything but music," he said. Music grabs their attention and then there's a message. This gives them something to retain it. Something to bring it back out so that they can share it."

Safari Man's message is love nature, animals and each other. He is subtle in words and appearance; imagine if Captain Kangaroo was a baby boomer in denim and a straw hat. His tools are a guitar, cymbals and a child's imagination.

Tripp spent 13 years working as a teacher and is convinced that children at most pre-schools are living a dreadfully boring existence. He created Safari Man as a way to relieve that boredom with music, movement and good times. Safari Man can get 100 kids to hop like bunnies, flap their arms like birds and thank a tree for providing air to breathe.

"I see myself as the person who can come in and give them a little bit of hope. Hey there's a big world out there. The world is not just this pre-school where they spend 90 percent of their time."



Oxygen
Rodger Tripp
copyright 1991 Safariman
World Productions

No, No, No, please don't chop down that tree, it's a home to lots of animals, shade for you and me

No, No, No please don't chop down that tree, that's where we get oxygen for you and me to breathe

Many, many years ago there were trees everywhere, the sky was blue and there was nice clean air

But people started cutting and clearing the trees away, now there is a problem to fix today

Everybody sing!
(Chorus)
No, No, No please don't chop down that tree, it's a home for lots of animals shade for you and me

No, No, No please don't chop down that tree, that's where we get oxygen for you and me to breathe

Squirrels build their nest high up in the tree, they collect a lot of nuts before the winter freeze

Up in the branches they run and play and if you listen carefully this is what they say

Come on and Sing
(repeat chorus)

Mocking birds, blue birds, sparrows and the wrens build their nests in trees just as the spring begins

Early in the morning you can hear them sing their song and if you do it softly you can sing along

(repeat chorus)
Everybody breathe

(sotto voce) *Thank you tree!*

CONSERVATION UPDATE

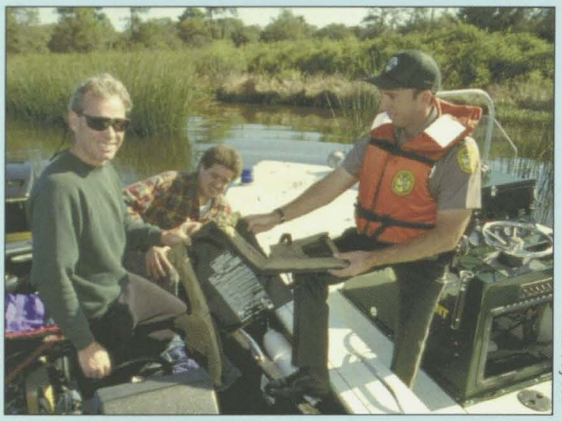
Compiled by James Call

William A. Greer

Edwin Roberts

New Commissioner

The newest GFC Commissioner is a member of the team which holds the state record for blue marlin. Edwin Roberts was appointed by Gov. Jeb Bush to a five-year term to replace retired Commissioner Louise Humphrey. Roberts graduated from Escambia High School, Nicholls State University and Texas Chiropractic College. In 1985 he helped capture a 980¾ pound blue marlin off Pensacola. A Pensacola chiropractor, Roberts is a past president of the Florida Conservation Association.



Lt. Joy Hill

Stephen D. Wayne (right)

Final Wildlife Officer of the Year

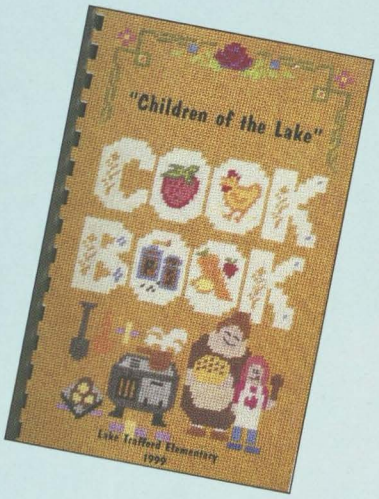
Stephen D. Wayne of Lake County has been named the GFC Wildlife Officer of the Year.

The 31-year-old Wayne joined the force in 1991 after graduating from Florida State University.

A south Florida native, he said he wanted to be a wildlife officer since he was 15 and met a game warden while on a fishing trip with his uncle. Wayne is the final GFC Wildlife Officer of the Year. The GFC will become part of the new Florida Fish and Wildlife Conservation Commission later this year.

Surfing for the Panthers

The GFC's webmaster promised that the new Panther Net site will provide answers to every question you have ever had about the Florida panther. Enter **http://www. panther. state.fl.us** and find information on the panther's history, habitat, threats and conservation efforts on its behalf. The interactive site features games for children, such as the "Mystery of the Circling Vultures," where a child becomes an "Official Panther Detective" after solving the mystery.



Recipes to Save a Lake

A group of Immokalee school children cooked up a recipe book to help with the restoration of Lake Trafford, a Collier County lake plagued with hydrilla and low oxygen levels. *Favorite Recipes* by students of Lake Trafford Elementary School costs $6. Money from book sales will be deposited in a fund for the lake managed by Wildlife Foundation of Florida. To order Favorite Recipes call (941) 657-3161.

Herpetologists Gather in Gainesville

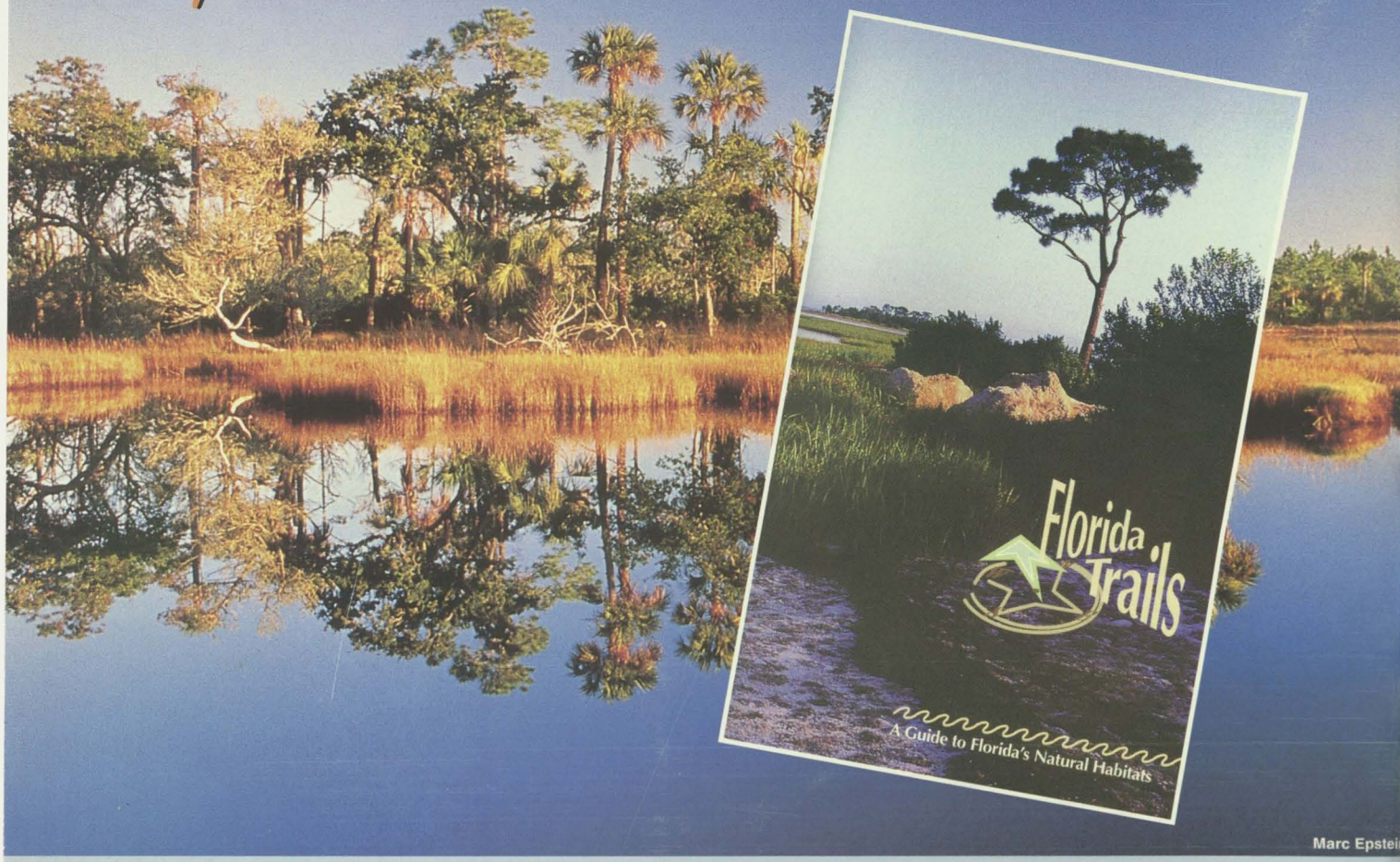
The 22nd Annual All Florida Herpetology Conference is scheduled for May 14-16 in Gainesville.

The three-day conference will discuss conservation and management of reptiles and amphibians in the next century. More information may be obtained from the Florida Museum of Natural History, e-mail: **afherpconf@flmnh.ufl.edu**; telephone: (352) 392-6581.

Forestry Friends Organize

The Florida Department of Agriculture & Consumer Services has established a direct support organization for the state's forests. Friends of Florida State Forests Inc., will assist programs in environmental education, fire prevention, recreation and forest management. For more information call (850) 488-7246.

Explore Florida's Wild Side!



Marc Epstei

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